The information in this preliminary offering memorandum is not complete and may be changed. This preliminary offering memorandum is not an offer to sell these securities, and we are not soliciting offers to buy these securities, in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED APRIL 21, 2016

PRELIMINARY OFFERING MEMORANDUM STRICTLY CONFIDENTIAL

$500,000,000

PQ Corporation

PQ Corporation

% Senior Secured Notes due 2022

PQ Corporation ("PQ") is a leading integrated global innovator and manufacturer of specialty inorganic performance chemicals, specialty catalysts and specialty glass materials.

We are issuing the notes in connection with the combination (the "Business Combination") of PQ with Eco Services Operations LLC ("Eco") and the consummation of this offering is conditioned upon the concurrent closing of the Business Combination, the entering into of our new senior secured credit facilities consisting of a New Term Loan Facility and a New ABL Facility, each as defined herein (the "New Senior Secured Credit Facilities") and the issuance of our new unsecured senior notes in a concurrent private placement (the "New Senior Unsecured Notes"). Eco is the leading producer of merchant sulfuric acid in the United States.

Use of Proceeds: The net proceeds from this offering, together with borrowings under the New Senior Secured Credit Facilities, the proceeds from the issuance of the New Senior Unsecured Notes and cash on hand, will be used to (i) repay Eco's existing term loan facility (the "Eco Term Facility") and any amounts outstanding under Eco's existing revolving credit facility (the "Eco Revolving Facility," and together with the Eco Term Facility, the "Eco Facilities"), (ii) repay PQ's existing term loan facility (the "Existing PQ Term Facility") and any amounts outstanding under PQ's existing revolving credit facility (the "Existing PQ Revolving Facility" and together with the Existing PQ Term Facility, the "Existing PQ Facilities") and (iii) redeem all of PQ's existing 8.750% second lien senior secured notes due 2018 (the "2018 Notes").

The Notes will mature on , 2022 (a date that will be approximately six and one half years after the date the Notes are issued).

Interest Payments: The Notes will pay interest semi-annually in cash in arrears on and of each year, beginning on , 2016.

The Notes and the guarantees are secured, subject to certain permitted liens and exceptions by: (i) a first-priority security interest in substantially all of our and the guarantors' property and assets that secure our New Term Loan Facility (other than collateral securing our New ABL Facility on a first-priority basis) and (ii) a second-priority security interest in receivables, inventory, deposit accounts and other collateral securing our New ABL Facility. The liens securing the Notes and the guarantees are *pari passu* with the liens securing our New Term Loan Facility subject to the *pari passu* intercreditor agreement and subordinated to the liens securing our New ABL Facility on a first-priority basis subject to the New ABL Facility intercreditor agreement.

The Notes will be initially guaranteed, jointly and severally, on a senior secured basis by CPQ Midco I Corporation, the direct parent of PQ ("CPQ"), PQ Holdings, the indirect parent of PQ ("PQ Holdings") and each of our existing and future domestic subsidiaries in each case to the extent such entities are guarantors under our New Term Loan Facility. See "Description of the Notes—Guarantees."

The Notes and guarantees thereof are our and the guarantors' general senior secured indebtedness. They will rank equally in right of payment with all of our and the guarantors' existing and future unsubordinated indebtedness; effectively senior to all of our and the guarantors' existing and future unsubordinated indebtedness that is not secured, to the extent of the value of the collateral securing the Notes (including the $200 million in aggregate principal amount of 8.5% Senior Notes due 2022, completed by Eco in October 2014 (the "2022 Notes") and the New Senior Unsecured Notes); *pari passu* with all of our and the guarantors' existing and future unsubordinated indebtedness secured by a first priority lien on the collateral securing the Notes (including the New Term Loan Facility); effectively subordinated to the New ABL Facility to the extent of the value of the assets securing the New ABL Facility on a first priority basis; senior in right of payment to all of our and the guarantors' future subordinated indebtedness; and structurally subordinated to all existing and future indebtedness, claims of holders of preferred stock and other liabilities of our subsidiaries that do not guarantee the Notes. See "Description of the Notes—Ranking."

The Notes will be redeemable, in whole or in part, at any time on or after , 2019 on the redemption dates and at the redemption prices specified under "Description of the Notes—Optional Redemption." In addition, we may redeem up to 40% of the notes before , 2019 with the net cash proceeds from certain equity offerings. We may also redeem some or all of the notes before , 2019 at a redemption price of 100% of the principal amount thereof plus accrued and unpaid interest, if any, to the redemption date, plus a "make whole" premium. We may also be required to make an offer to purchase the notes upon the sale of certain assets and upon certain events defined as constituting a change of control. In addition, if six months prior to November 1, 2022 (i.e., the final stated maturity of the Existing Senior Notes), any of the Existing Senior Notes remain outstanding, the holders of the Notes may require us to repurchase all or any part of such holder's Notes at par, plus accrued and unpaid interest, if any, to the date of repurchase, pursuant to an offer on the terms set forth in the Indenture. See "Description of the Notes—Special Mandatory Offer to Purchase."

Investing in the Notes involves risks that are described in the "Risk Factors" section beginning on page 30 of this offering memorandum.

Offering Price: % of the principal amount, plus accrued and unpaid interest, if any, from , 2016.

The Notes have not been and will not be registered under the U.S. Securities Act of 1933 (the "Securities Act"), as amended, or the securities laws of any other jurisdiction. Unless they are registered, the Notes may be offered only in transactions that are exempt from registration under the Securities Act, or the securities laws of any other jurisdiction. Accordingly, we are offering the Notes only to persons reasonably believed to be qualified institutional buyers and outside the United States to non-U.S. persons in compliance with Regulation S under the Securities Act. For further details about eligible offerees and resale restrictions, see "Notice to Investors." We do not intend to make an offer to exchange the Notes for notes registered under the Securities Act or to otherwise register the Notes for resale under the Securities Act.

The initial purchasers expect to deliver the Notes through the facilities of The Depository Trust Company against payment in New York, New York on , 2016.

Joint Book-Running Managers

Citigroup	**Credit Suisse**	**Morgan Stanley**	**J.P. Morgan**
Jefferies	**Goldman, Sachs & Co.**	**Deutsche Bank Securities**	**KeyBanc Capital Markets**

The date of this offering memorandum is , 2016

You should rely only on the information contained in this offering memorandum. We have not authorized any person to provide you with any information or represent anything about us or this offering that is not contained in this offering memorandum. If given or made, any such other information or representation should not be relied upon as having been authorized by us or the initial purchasers. We take no responsibility for, and can provide no assurance as to the accuracy of, any other information that others may give you. We are not, and the initial purchasers are not, making an offer to sell these Notes in any jurisdiction where an offer or sale is not permitted.

TABLE OF CONTENTS

IMPORTANT INFORMATION ABOUT THIS OFFERING MEMORANDUM

We are making this offering in reliance on an exemption from registration under the Securities Act for offers and sales of securities that do not involve a public offering. The Notes may not be offered or sold except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act and any applicable state securities laws. Laws in certain jurisdictions may restrict the distribution of this offering memorandum and the offer and sale of the Notes. Persons into whose possession this offering memorandum or any of the Notes are delivered must inform themselves about, and observe, those restrictions. You must comply with all applicable laws and regulations in force in any applicable jurisdiction, and you must obtain any consent, approval or permission required for the purchase, offer or sale by you of the Notes under the laws and regulations in force in the jurisdiction to which you are subject or in which you make such purchase, offer or sale, and neither we nor the initial purchasers will have any responsibility therefor.

By purchasing the Notes, you will be deemed to have made acknowledgments, representations, warranties and agreements as set forth under "Notice to Investors" in this offering memorandum. We are not, and the initial purchasers are not, making an offer to sell the Notes in any jurisdiction except where an offer or sale is permitted. You should understand that you will be required to bear the financial risks of your investment for an indefinite period of time.

This offering memorandum summarizes documents and other information in a manner we believe to be accurate, but we refer you to the actual documents for a more complete understanding of the information we discuss in this offering memorandum. In making an investment decision, you must rely on your own examination of such documents, our business and the terms of the offering and the Notes, including the merits and risks involved.

By accepting delivery of this offering memorandum, you acknowledge that (i) you have been afforded an opportunity to request and to review all additional information considered by you to be necessary to verify the accuracy of, or to supplement, the information contained in this offering memorandum, (ii) you have not relied on the initial purchasers or any person affiliated with the initial purchasers in connection with the investigation of the accuracy of such information or your investment decision, (iii) this offering memorandum relates to an offering that is exempt from registration under the Securities Act, and (iv) no person has been authorized to give information or to make any representations concerning us, this offering or the notes described in this offering memorandum, other than as contained in this offering memorandum and information given by our duly authorized officers and employees in connection with an investor's examination of us and the terms of the offering of the Notes.

This offering memorandum may not be copied or reproduced in whole or in part, and it may only be distributed and disclosed to the prospective investors to whom it is provided.

We make no representation to you that the Notes are a legal investment for you. You should not consider any information in this offering memorandum to be legal, business or tax advice. You should consult your own attorney, business advisor and tax advisor for legal, business and tax advice regarding an investment in the Notes. Neither the delivery of the offering memorandum nor any sale made pursuant to this offering memorandum implies that any information set forth in this offering memorandum is correct as of any date after the date of this offering memorandum.

We reserve the right to withdraw this offering of the Notes at any time. We and the initial purchasers also reserve the right to reject any offer to purchase the Notes in whole or in part for any reason and to allot to any prospective investor less than the full amount of notes sought by such investor.

In connection with this offering, the initial purchasers may, but are not required to, effect transactions that stabilize or maintain the market price of the Notes at a higher level than the Notes might otherwise achieve in the open market. Such stabilizing, if commenced, may be discontinued at any time. For a description of these activities, see the section "Plan of Distribution" in this offering memorandum.

The initial purchasers make no representation or warranty, express or implied, as to the accuracy or completeness of the information set forth in this offering memorandum, and nothing contained in this offering memorandum is, nor should you rely upon it as, a promise or representation, whether as to the past or the future.

This offering memorandum is strictly confidential and has been prepared by us solely for use in connection with the proposed offering of the notes described in this offering memorandum. This offering memorandum is personal to each offeree and does not constitute an offer to any other person or the public generally to subscribe for or otherwise acquire the Notes. Distribution of this offering memorandum to any person other than the offeree and those persons, if any, retained to advise such offeree with respect to this offering memorandum is unauthorized and any disclosure of any of its contents without our prior written consent is prohibited. By accepting delivery of this offering memorandum, you agree to the foregoing and not to make any photocopies, in whole or in part, of this offering memorandum or any documents delivered in connection with this offering memorandum. If you do not purchase the Notes, or this offering of the Notes is terminated, you agree to return this offering memorandum to: Citigroup Global Markets Inc., 388 Greenwich Street, New York, NY 10013.

Neither the Securities and Exchange Commission ("SEC") nor any state securities commission has approved or disapproved of these Notes or determined if this offering memorandum is truthful or complete. Any representation to the contrary is a criminal offense.

CAUTIONARY DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS

This offering memorandum, including the sections entitled "Summary," "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations of PQ Holdings," "Management's Discussion and Analysis of Financial Condition and Results of Operations of Eco," and "Business" contains forward-looking statements. All statements other than statements of historical facts contained in this offering memorandum, including statements regarding our future results of operations and financial position, business strategy and plans and our objectives for future operations, are forward-looking statements. The words "believe," "may," "will," "estimate," "continue," "anticipate," "intend," "expect," "should" and similar expressions are intended to identify forward-looking statements. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our financial condition, results of operations, business strategy, short term and long term business operations and objectives, and financial needs. Examples of forward-looking statements include, but are not limited to, statements we make regarding (i) our estimated results for the three months ended March 31, 2016, (ii) our liquidity, including our belief that our current level of operations, our cash and cash equivalents, cash flow from operations and borrowings under our New Senior Secured Credit Facilities and other lines of credit will provide us adequate cash to fund the working capital, capital expenditure, debt service and other requirements for our business for the foreseeable future and (iii) the expected benefits of the Business Combination and estimated cost savings. These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including those described in "Risk Factors." Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this offering memorandum may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements.

Some of the key factors that could cause actual results to differ from our expectations include:

- risks related to our exposure to local business risks and regulations in different countries;
- demand for our products being significantly affected by general economic conditions;

- risks related to exchange rate fluctuations;
- risks related to legal and regulatory compliance;
- demand for our products being significantly affected by technological or other changes in our customers' products;
- risks related to our and our competitors' research and development;
- risks related to fluctuations in prices of raw materials and/or relationships with our key suppliers;
- risks related to substantial competition;
- risks related to our Eco business' reliance on a small number of customers;
- risks related to potential early termination or non-renewal in our Eco business' contracts;
- risks related to the seasonal fluctuations in demand for some of our products;
- risks related to the retention of certain key personnel;
- risks related to our expansion projects;
- risks related to potential product liability claims;
- risks related to existing and potential future government regulation;
- risks related to the extensive environmental, health and safety regulations to which we are subject;
- risks related to our insurance coverage;
- risks related to our acquisition strategy;
- risks related to our joint venture investments;
- risks related to our failure to protect our intellectual property and infringement on the intellectual property rights of third parties;
- risks related to potential labor disruptions;
- risks related to litigation and other administrative and regulatory proceedings;
- our inability to realize the expected benefits of the Business Combination, including anticipated synergies and cost savings;
- risks related to our substantial indebtedness; and
- other factors that are described in "Risk Factors."

The forward-looking statements included in this offering memorandum are made only as of the date hereof. You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances reflected in the forward-looking statements will be achieved or occur. Moreover, neither we nor any other person assumes responsibility for the accuracy and completeness of the forward-looking statements. We undertake no obligation to update publicly any forward-looking statements for any reason after the date of this offering memorandum to conform these statements to actual results or to changes in our expectations.

You should read this offering memorandum with the understanding that our actual future results, levels of activity, performance and events and circumstances may be materially different from what we expect.

TRADEMARKS AND TRADENAMES

We own or have rights to trademarks or trade names that we use in conjunction with the operation of our business. In addition, our name, logo and website name and address are our service marks or trademarks. Each trademark, trade name or service mark by any other company appearing in this offering memorandum belongs to its holder. Some of the more important trade names and trademarks that we use include Potters, PQ, Zeolyst and Zeolyst International. We have also filed a U.S. trademark application to register the trademark Eco Services. We also own or have the rights to copyrights that protect the content of our products. Solely for convenience, the trademarks, service marks, trade names and copyrights referred to in this offering memorandum are listed without the ©, ® and ™ symbols, but we will assert, to the fullest extent under applicable law, our rights to these trademarks, service marks and trade names.

SUPPLY SHARE AND INDUSTRY INFORMATION

The data regarding our supply share of product end-uses and other statistical information used throughout this offering memorandum are based on independent industry publications, reports by research firms or other published independent sources. Some data and statistical information are also based on our good faith estimates, which are derived from management's knowledge of our industry and such independent sources referred to above. Certain supply share statistics, ranking and industry data included in this offering memorandum, including the size of certain end-uses and our size or estimated position and the positions of our competitors for sales into such end-uses, including our services relative to our competitors, are based on estimates of our management. These estimates have been derived from our management's knowledge and experience in the industries in which we operate, as well as information obtained from surveys, reports by research firms, our customers, distributors, suppliers, trade and business organizations and other contacts in the industries in which we operate. Unless otherwise noted, all of our supply share and supply position information presented in this offering memorandum is an approximation based on management's knowledge. Our supply share and supply position in each of our businesses and product groups, unless otherwise noted, is based on our sales volumes relative to the estimated sales volumes for the year ended December 31, 2015 in the end-uses we serve over the same period. References herein to our being a leader in a supply position or product category refer to our belief that we have a leading supply share position in each specified end-use, unless the context otherwise requires. In addition, the discussion herein regarding our various end-uses is based on how we define the end-uses for our products, which products may be either part of larger overall sources of demand or sources of demand that include other types of products and services.

Certain monetary amounts, percentages and other figures included in this offering memorandum have been subject to rounding adjustments. Accordingly, figures shown as totals in certain tables or charts may not be the arithmetic aggregation of the figures that precede them, and figures expressed as percentages in the text may not total 100% or, as applicable, when aggregated may not be the arithmetic aggregation of the percentages that precede them.

PRESENTATION OF FINANCIAL INFORMATION

The Business Combination

On August 17, 2015, we, PQ Holdings, the parent company of PQ, Eco, Eco Services Holdings LLC, Eco Services Group Holdings LLC ("Group Holdings") and certain entities controlled by CCMP Capital Advisors, LLC ("CCMP") entered into a reorganization and transaction agreement (as subsequently amended, the "Reorganization Agreement"), pursuant to which, subject to the terms and conditions set forth therein, we agreed to consummate a series of transactions to reorganize and combine the businesses of PQ and Eco under a new holding company, PQ Group Holdings Inc. ("New Holdings"). The Business Combination is more fully described below under "Summary—The Business Combination."

Historical Financial Information

The financial information of PQ Holdings and Eco contained in this offering memorandum have been prepared in accordance with generally accepted accounting principles in the United States ("GAAP" or "U.S. GAAP"). In accordance with U.S. GAAP, this offering memorandum presents Eco as the accounting predecessor to New Holdings.

Until the acquisition of substantially all of the assets of Solvay's Eco Services business unit by Eco (the "2014 Acquisition"), Eco historically operated as a business unit of Solvay USA Inc. ("Solvay") and therefore, the financial statements of Eco contained in this offering memorandum for periods prior to the 2014 Acquisition are not necessarily indicative of what Eco's financial position, results of operations and cash flows would have been if Eco had been a separate, standalone entity that operated completely independently of Solvay. Additionally, in connection with the 2014 Acquisition, a new basis of accounting was established as of December 1, 2014 as a result of the application of the acquisition method of accounting. Accordingly, with respect to the historical financial and related information of Eco included in this offering memorandum following such date, references to "Predecessor" refer to periods prior to such date and references to "Successor" refer to periods after such date.

Pro Forma Financial and Other Data

We present in this offering memorandum certain unaudited pro forma condensed combined financial and other data on an as adjusted basis to give pro forma effect to the Business Combination and the related financing transactions. The pro forma combined financial information included in this offering memorandum, and the phrase "on a pro forma basis," give pro forma effect to the Business Combination and the related financing transactions as if they had occurred on (i) December 31, 2015 for balance sheet purposes and (ii) January 1, 2015 for statement of income purposes. See "Summary— Summary Historical Financial and Other Data," "Capitalization" and "Unaudited Pro Forma Condensed Combined Financial Statements." The unaudited pro forma condensed combined financial and other data is presented for informational purposes only, is based on currently available information and is not indicative of our financial position or results of operations that would have occurred had the pro forma transactions taken place on the applicable dates, nor is it necessarily indicative of future results. The unaudited pro forma condensed combined financial and other data has not been prepared in accordance with the requirements of Regulation S-X of the Securities Act, GAAP or any other generally accepted accounting standards.

NON-GAAP FINANCIAL MEASURES

The SEC has adopted rules to regulate the use in filings with the SEC and in other public disclosures of "non-GAAP financial measures." These measures are derived on the basis of methodologies other than in accordance with U.S. GAAP. These rules govern the manner in which non-GAAP financial measures are publicly presented and require, among other things:

- a presentation of equal or greater prominence of the most directly comparable financial measure or measures calculated in accordance with U.S. GAAP;
- a quantitative reconciliation for historical non-GAAP measures presented and qualitative differences between non-GAAP financial measures disclosed with the most directly comparable financial measure calculated or presented in accordance with U.S. GAAP;

- a statement disclosing the purposes for which the registrant's management uses the non-GAAP financial measure; and
- a statement disclosing the reasons why the registrant's management believes that presentation of the non-GAAP financial measure provides useful information to investors regarding the registrant's financial condition and results of operations.

The rules prohibit in all filings with the SEC, among other things:

- the exclusion of charges or liabilities that require, or will require, cash settlement or would have required cash settlement, absent an ability to settle in another manner, from a non-GAAP liquidity measure;
- the adjustment of a non-GAAP financial measure to eliminate or smooth items identified as non-recurring, infrequent or unusual, when the nature of the charge or gain is such that it has occurred in the past two years or is reasonably likely to recur within the next two years, where such charge is specifically described as non-recurring;
- the presentation of non-GAAP financial measures on the face of the registrant's financial statements prepared in accordance with U.S. GAAP or in the accompanying notes;
- the presentation of non-GAAP financial measures on the face of any pro forma financial information required to be disclosed by Article 11 of Regulation S-X; or
- the use of titles or descriptions of non-GAAP financial measures that are the same as, or confusingly similar to, titles or descriptions used for GAAP financial measures.

To supplement the financial information presented in accordance with U.S. GAAP, we use certain non-GAAP financial measures of PQ Holdings and Eco in this offering memorandum such as (i) "Adjusted EBITDA," "Combined Adjusted EBITDA," "Pro Forma Combined Adjusted EBITDA" and "Business Adjusted EBITDA" (collectively, our "EBITDA Measures") and (ii) "Free Cash Flow." In addition, we present (i) "Contribution Margin" and (ii) "Fixed Costs" for Eco. We also present combined financial data for Eco for the years ended December 31, 2011 and December 31, 2014. The combined financial data for Eco for the year ended December 31, 2011 is the combination of the predecessor period from January 1, 2011 to September 6, 2011 and the successor period from September 7, 2011 to December 31, 2011 for the Solvay acquisition from Rhodia of the Eco business. The combined financial data for Eco for the year ended December 31, 2014 is the combination of the predecessor period from January 1, 2014 to November 30, 2014 and the successor period from inception (July 30, 2014) to December 31, 2014 for the CCMP acquisition from Solvay of the Eco business. We also present combined financial data for PQ as the combined results for PQ Holdings Inc. and the Eco Services Operations LLC. Our presentation of our EBITDA Measures and Free Cash Flow, Contribution Margin and Fixed Costs may not comply with SEC rules governing the presentation of non-GAAP financial measures. For example, some of the adjustments to our EBITDA Measures as presented in this offering memorandum may not be allowed under Regulation S-X. We have included our EBITDA Measures and Free Cash Flow in this offering memorandum because our management believes that they provide useful information about our past operating performance. Our presentation of Pro Forma Combined Adjusted EBITDA is consistent with the definitions of EBITDA included in the indenture governing the Notes offered hereby, the New Senior Unsecured Notes and our New Senior Secured Credit Facilities and may not be comparable to those of other companies. Our EBITDA Measures and Free Cash Flow are not measurements of our financial performance under U.S. GAAP and should not be considered as alternatives to net income or any other performance measures derived in accordance with U.S. GAAP. Our EBITDA Measures and Free Cash Flow have limitations as analytical tools, and you should not consider them in isolation or as a substitute for analysis of our operating results under GAAP. Some of these limitations include:

- they do not reflect changes in, or cash requirements for, our working capital needs;
- they do not reflect the significant interest expense or the cash requirements necessary to service interest, or principal payments, on our debt;

- they exclude certain tax payments that may represent a reduction in cash availability to us;
- although depreciation is a non-cash charge, the assets being depreciated will often have to be replaced in the future, and our EBITDA Measures do not reflect any cash requirements for such replacements, which includes maintenance capital expenditures;
- they are not adjusted for all non-cash income or expense items that are reflected in our statements of cash flows; and
- other companies in our industry may calculate these measures differently than we do, limiting their usefulness as comparative measures.

Because of these limitations, our EBITDA Measures and Free Cash Flow should not be considered as measures of discretionary cash available to us to invest in the growth of our business. We compensate for these limitations by relying primarily on our GAAP results and using our EBITDA Measures and Free Cash Flow only for supplemental purposes. See our financial statements elsewhere in this offering memorandum for our GAAP results. See "Summary—Summary Historical Financial and Other Data," "Selected Consolidated Financial Data of PQ Holdings" and "Selected Consolidated Financial Data of Eco" for a description of the calculation of Adjusted EBITDA of each of PQ and Eco, Combined Adjusted EBITDA and Pro Forma Combined Adjusted EBITDA, a reconciliation to net income (loss) and a description of Free Cash Flow. The adjustments that are used to calculate Adjusted EBITDA for PQ are not allocated to PQ's operating businesses and, as a result, we are unable to reconcile Business Adjusted EBITDA to the nearest GAAP measure. Total Business Adjusted EBITDA differs from PQ's consolidated Adjusted EBITDA because it does not include the impact of unallocated corporate expenses as reflected in "Selected Consolidated Financial Data of PQ Holdings." See "Management's Discussion and Analysis of Financial Condition and Results of Operations of Eco—Description of Key Financial Statement Line Items" for a description of Contribution Margin and Fixed Costs.

SUMMARY

This summary highlights significant aspects of our business and this offering, but it is not complete and may not contain all of the information that may be important to you. You should read the entire offering memorandum carefully*, including "Management's Discussion and Analysis of Financial Condition and Results of Operations of PQ Holdings," "Management's Discussion and Analysis of Financial Condition and Results of Operations of Eco" and the historical financial statements and their related notes and pro forma condensed combined financial data included elsewhere in this offering memorandum. Investing in the Notes involves significant risks, as described in the "Risk Factors" section. In addition, certain statements include forward-looking information that involves risks and uncertainties. See "Cautionary Disclosure Regarding Forward-Looking Statements."*

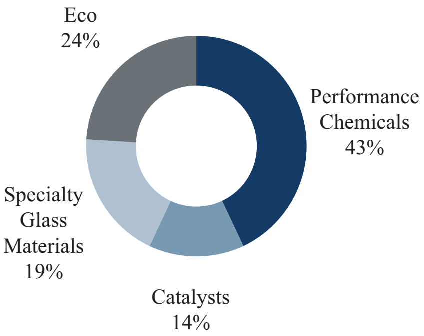
In this offering memorandum, except as described in "Presentation of Financial Information" or unless otherwise indicated or the context otherwise requires:

- *references to "we," "us," "our," the "combined company" refer to PQ Holdings Inc. and its consolidated subsidiaries, including PQ Corporation, our primary operating company, together with, if the context requires, its subsidiaries, and, to the extent the context requires, following the consummation of the Business Combination, includes Eco;*
- *references to "Eco" refer to Eco Services Operations LLC and its subsidiaries; and*
- *references to "PQ" refer to PQ Holdings Inc. and its consolidated subsidiaries, including PQ Corporation and its subsidiaries, but excluding Eco.*

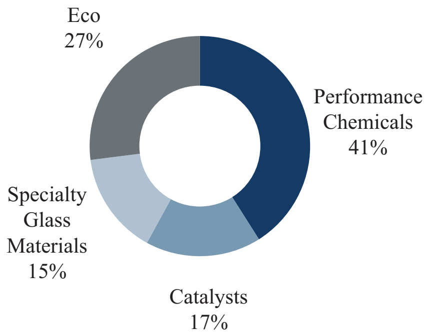
PQ Corporation

We are a leading integrated global innovator and producer of specialty inorganic performance chemicals, specialty catalysts, specialty glass materials and merchant sulfuric acid. We are focused on developing sustainable and innovative material science solutions to meet critical needs of end-users around the world. We believe we are a leader in each of our businesses, holding what we estimate to be a number one or two supply share position for the year ended December 31, 2015 for greater than 90% of the products we produced, based on volume, in North America, EMEA or Asia, as applicable, where the respective products are sold. Customers use our products as a critical component for a broad range of applications including catalysts to address emissions control in automotive catalytic converters, silica-based additives to enhance teeth whitening performance in toothpaste, silica additives for "green tires" that improve fuel efficiency, glass beads used for reflectivity in highway safety applications, and sulfuric acid used as a catalyst in the production of alkylates for gasoline blending. We are at the forefront of our industry and continue to develop innovative solutions to meet customers' productivity, environmental and profitability objectives. For the year ended December 31, 2015, we generated pro forma combined sales and Pro Forma Combined Adjusted EBITDA of $1,567 million and $434 million, respectively, representing a Pro Forma Combined Adjusted EBITDA margin of approximately 28%. We are highly diversified by business, geography and end-use, as indicated in the charts below, which show our pro forma combined sales and Pro Forma Combined Adjusted EBITDA by business and pro forma combined sales by region and end-use in percentage terms for the year ended December 31, 2015.

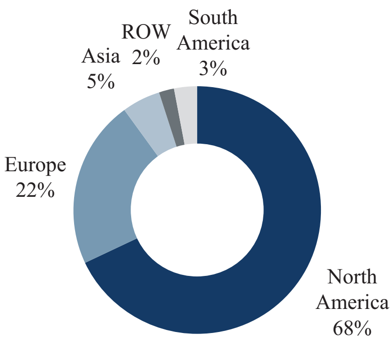
Pro Forma Combined Sales[(1)] by Business



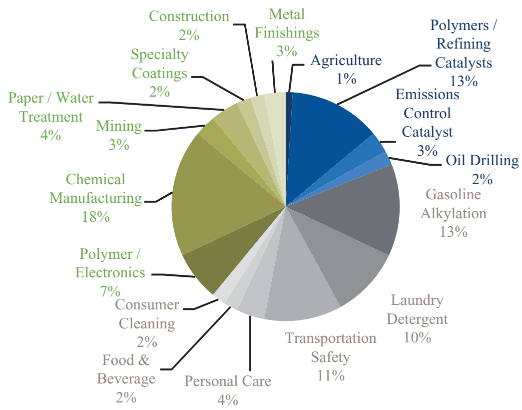
Pro Forma Combined Adjusted EBITDA by Business



Pro Forma Combined Sales by Region



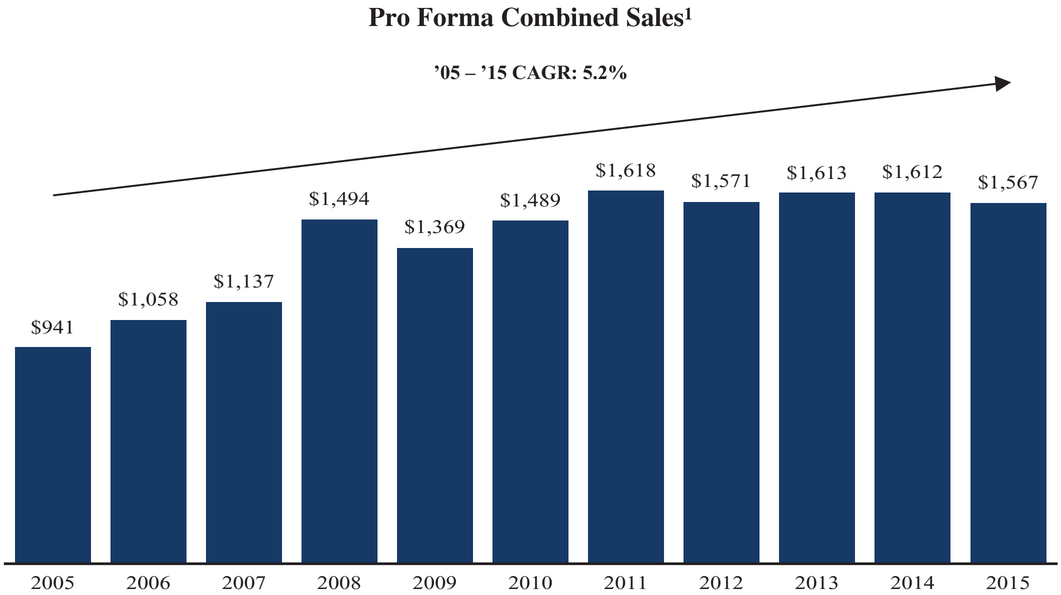
Pro Forma Combined Sales by End-Use

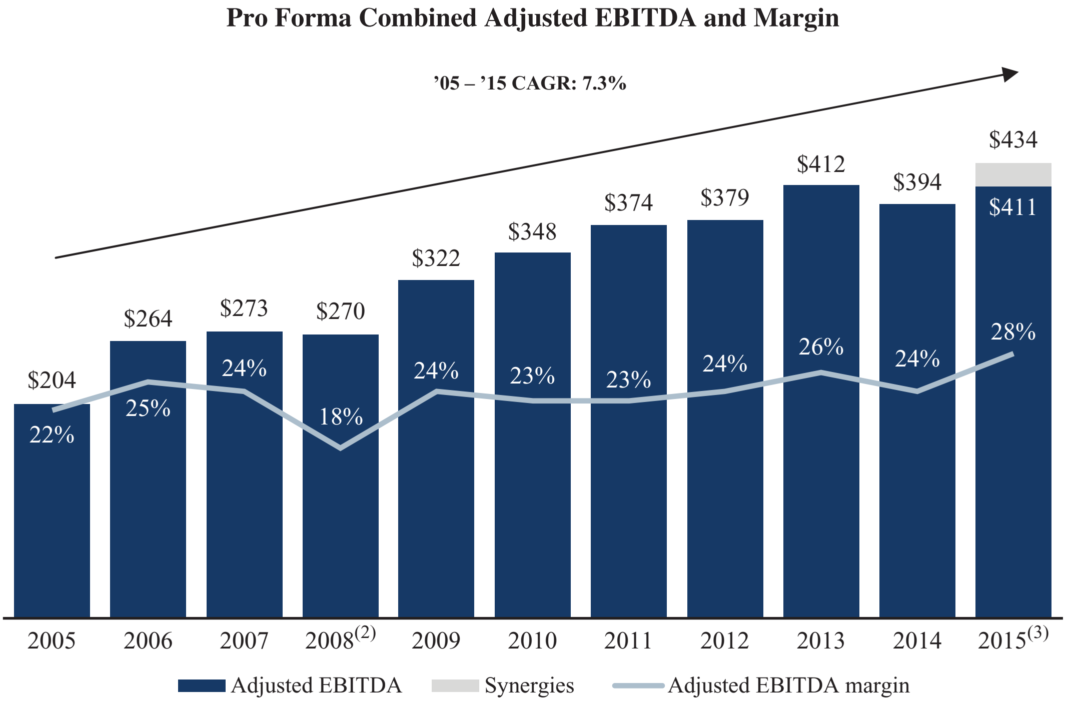


---

(1) PQ revenue includes PQ's proportionate share of revenue from our Catalyst joint ventures, and Eco sales are net of abatement revenue. See "Selected Consolidated Financial Data of Eco."

We sell our products to over 4,000 customers across 17 major end-uses globally from our 68 manufacturing facilities, which are strategically located across six continents. Our geographic footprint is closely aligned with our customers and our highly efficient network of plants provides us with a strong competitive advantage. In some instances, we are co-located with or pipeline connected to our customers. We are able to meet our customers' needs by efficiently expanding our plant capacity which provides us an advantage compared to cost and regulatory complications associated with "greenfield" plants. Our longstanding customer relationships are supported by long term contracts which feature cost pass-through protections. Our strong industry position, diversified customer base and high degree of customer loyalty have enabled us to consistently generate stable cash flows through economic cycles. From 2005 to 2015, the combined business achieved a 5.2% pro forma combined sales compound annual growth rate ("CAGR") and a 7.3% Adjusted EBITDA CAGR, as illustrated below:





---

(1) PQ revenue includes PQ's proportionate share of revenue from our Catalyst joint ventures, and Eco sales are net of abatement revenue. See "Selected Consolidated Financial Data of Eco."

(2) Includes results of INEOS Silicas, formerly a division of INEOS, subsequent to PQ's July 2008 acquisition of the business from INEOS.

(3) Pro Forma Combined Adjusted EBITDA includes estimated run-rate synergies for the year ended December 31, 2015. For a discussion of these estimated run-rate synergies, see "Management's Discussion and Analysis of Financial Condition and Results of Operations of PQ Holdings—Description of Key Financial Statement Line Items and Key Performance Indicators—Cost Savings Opportunities."

Our Businesses

Performance Chemicals

Our Performance Chemicals business is an integrated silicate technology producer with leading supply positions in North America, Europe, South America and Asia-Pacific. Our Performance Chemicals business produces inorganic products in six main categories: (i) Sodium Silicate, (ii) Specialty Silicas, (iii) Zeolite Products, (iv) Spray Dry Silicates, (v) Magnesium Silicate and (vi) Other Specialty Chemicals. Our silicate products and solutions and derivative products are used in a variety of end-uses such as adsorbents for surface coatings, clarifying agents for beverages, cleaning and personal care products. From 2005 to 2015, our Performance Chemicals business achieved a 5.4% sales CAGR and an 8.6% Adjusted EBITDA CAGR; our ability to grow throughout economic cycles was driven by the diverse consumer and industrial end-uses for our products, our local relationships and the global scale of our business. Our products are essential building blocks that impart critical performance characteristics in our customers' end-products, yet typically represent a small portion of our customers' overall end-product costs. Further, our cost structure and strategically located manufacturing facility network is a key competitive strength as many of our products have a very limited economic shipping distance.

We are a global player and we believe we have leading supply positions across our portfolio of products. We expect favorable industry and competitive conditions to continue as a result of the attractive, environmentally-friendly attributes of silicates, large investment required to build new production capacity, the lack of cost-effective substitute chemicals for sodium silicate and the low penetration of imported sodium silicate due to significant transportation costs and our short delivery cycle times.

Catalysts

Our Catalysts business is an integrated silica catalyst and specialty zeolite-based catalyst producer with leading North America supply positions. Our Catalysts business is managed through two reporting business units: Silica Catalysts product group and Catalyst joint ventures. In our Silica Catalysts product group, the majority of products that we sell are used in the production of high-density polyethylene ("HDPE"), a high strength and high stiffness polyethylene used in demanding applications such as large-part blow molding, film and pipes. In our Catalyst joint ventures, we produce specialty zeolite-based catalysts that are sold to the emissions control industry, the petrochemical industry and other areas of the broader chemicals industry. We have achieved an 12.9% sales CAGR and a 13.6% Adjusted EBITDA CAGR in our Catalysts business from 2005 to 2015, throughout economic cycles, driven by our highly innovative products providing critical functionality and our leading industry positions and broad customer reach. We believe that our products are mission critical for multiple industries and impart vital functionality in the production of chemicals and basic materials and the reduction of emissions in engines. Our Catalysts business maintains a highly technological and customized product offering with development times routinely ranging from five to ten years, a versatile product structure that allows for continued innovation and customization, and an alignment with industry leading customers in attractive end-uses. The Silica Catalysts Product Group is also leveraging its technical expertise to develop new catalyst products for other end-uses involving new and more efficient pathways for producing industrial chemicals, including methyl methacrylate ("MMA") and ethyl acetate.

Specialty Glass Materials

Our Specialty Glass Materials business is the industry leader in North America and is comprised of the Highway Safety and Engineered Glass Materials ("EGM") product groups. Highway Safety manufactures glass beads used for airport, highway and road safety applications to improve visibility in wet and nighttime driving conditions. These beads are primarily sold to state municipalities, highway contractors and paint / thermoplastic producers under the Potters brand. Engineered Glass Materials produces solid and hollow glass spheres for use as polymer additives and fillers in specialized plastics, as engineered peening beads in metal finishing and as conductives in consumer electronics and other applications. We have achieved a 3.1% sales CAGR and a 3.9% Adjusted EBITDA CAGR in our Specialty Glass Materials business from 2005 to 2015, in spite of economic downturns, driven by our diverse consumer and industrial end-uses and our ability to innovate and drive product and service differentiation in our core business. Our superior customer service, in combination with strong, long-term relationships that have fostered close technical collaboration, along with our global footprint and technical capabilities, provide our Specialty Glass Materials business with a distinct competitive advantage.

Eco

Our Eco business is an integrated merchant sulfuric acid producer with the number one supply share position in the United States in both sulfuric acid regeneration and the production of virgin sulfuric acid for merchant sale. Eco operates through two principal product groups: Sulfuric Acid Regeneration and Virgin Sulfuric Acid. Our Sulfuric Acid Regeneration business recycles spent sulfuric acid into fresh sulfuric acid for continuous supply to the oil refining industry. Refineries utilize sulfuric acid as the primary catalyst in the alkylation process which produces high octane gasoline blending additives. Our Virgin Sulfuric Acid business produces high quality virgin acid products from sulfur and other raw materials for supply to a wide range of industrial end-users who purchase these products in the United States. There are a variety of end-users who purchase sulfuric acid products including the nylon, mining, general industrial and chemicals industries.

We have achieved a 4.1% sales CAGR and a 3.2% Adjusted EBITDA CAGR from 2005 to 2015 in our Eco business. Our ability to grow throughout economic cycles was driven by our industry-leading integrated product and service offering and the critical, non-discretionary nature of our product. We believe we operate in an industry with attractive fundamentals and significant capital costs associated with new sulfuric acid plants. Our integrated network of plants and logistics assets, which are integrated into our customers' supply chains, are difficult to replicate and provides us with a significant competitive advantage and deeply entrenched customer relationships. We have established our leading supply share position for merchant sulfuric acid sales through a long and continuous operating history and the consistent delivery to our customers via integration into their supply chains. Our core operating value of "absolute reliability" reflects the critical, non-discretionary aspect of sulfuric acid usage from the perspective of our customers, who generally cannot operate without consuming sulfuric acid on a continuous basis.

Summary Business and Products

The table below summarizes our key businesses, products, supply share positions and end-uses. Sales in the table below are presented on the same basis in which we manage our businesses, which includes the proportionate consolidation of our Catalyst joint ventures. This presentation differs from our sales in the consolidated financial statements, as the Catalyst joint ventures are each accounted for as equity method investments in accordance with U.S. GAAP and, as a result, the sales figures presented in the below table are not presented in accordance with U.S. GAAP.

Businesses and Product Groups	Year Ended December 31, 2015 Sales ($ in millions)(1)	% of FY 2015 Pro Forma Combined Total Sales(1)	Supply Share Positions(2) North America	Supply Share Positions(2) EMEA and Asia	Key functions and End-Uses
Performance Chemicals					
Sodium Silicate	$318.4	20%	#1	#2	Building blocks for downstream silicates / silicas, bleaching aid and catalysts support
Specialty Silicas	$134.1	9%	#2	#2	Polishing aid in toothpaste, adsorbent for surface coatings, clarifying agent for beverages (beer); alters consistency of personal care products
Zeolite Products	$ 95.0	6%	#1	#1	Water softener for detergent, additive for paving, paper strengthener and lubricant
Spray Dry Silicate	$ 38.2	2%	#1	#1	Highly soluble solution for cleaning products and construction
Magnesium Silicate	$ 12.1	1%	—	#2	Purification of crude polyols and of frying oil
Other Specialty Chemicals	$ 77.4	5%	—	—	Aluminum, lithium silicate and other chemicals
Performance Chemicals subtotal(3)	**$675.2**	**43%**			
Catalysts					
Silica Catalysts	$ 58.2	4%	#2(4)	—	Polymerization of HDPE for plastic containers, gas and sewer pipes, films, grocery bags and other plastic materials, including synthesis of organic chemicals
Specialty Zeolite-Based Catalysts(5)	$159.8	10%	#1/#2(5)	—	Remove impurities from diesel and gasoline to meet emissions standards; also used in chemical synthesis and oil refining
Catalysts subtotal(1)	**$218.1**	**14%**			

Businesses and Product Groups	Year Ended December 31, 2015 Sales ($ in millions)(1)	% of FY 2015 Pro Forma Combined Total Sales(1)	Supply Share Positions(2) North America	EMEA and Asia	Key functions and End-Uses
Specialty Glass Materials					
Transportation Safety	$ 175.8	12%	#1	#1	Reflective glass beads used in highway and airport lane markings, guardrails, barriers and delineation
Engineered Glass Materials	$ 115.1	7%	#1(6)	#2(7)	Highly-specialized hollow and solid glass spheres and metal coated particles used in electronics, plastics manufacturing, metal finishing and drilling end-uses
Specialty Glass Materials subtotal(8)	**$ 290.9**	**19%**			
Eco Services					
Sulfuric Acid Regeneration	$ 192.9	12%	#1(2)	—	Used in the production of alkylates for oil refining and gasoline blending
Virgin Sulfuric Acid	$ 167.6	11%	#1(2)	—	Wide range of industrial end-users in the merchant market including the nylon, mining, general industrial and chemicals industries
Other products and services(9)	$ 22.4	1%			Waste treatment services and water treatment chemicals
Eco subtotal	**$ 382.9**	**24%**			
Total sales(1)	**$1,567.0**	**100%**			

(1) Sales and percentages include our proportionate share of sales from our Catalyst joint ventures, which for the year ended December 31, 2015 were $159.8 million.
(2) Supply share positions are based on management's estimates. Supply share position data relating to our Eco business reflect its supply position in the United States.
(3) Excludes $10.2 million of intercompany sales between the Performance Chemicals business and the Specialty Glass Materials business.
(4) Catalysts are marketed on a global basis and as such, supply share is calculated accordingly.
(5) Specialty zeolite-based catalysts are a product of our Catalyst joint ventures. Includes our 50% share of our Catalyst joint ventures.
(6) Number one in metal finishing, spheriglass and conductives; number two in hollow glass spheres.
(7) Number one in metal finishing and spheriglass; number two in hollow glass spheres.
(8) Excludes $0.4 million of intercompany sales between the Specialty Glass Materials business and the Performance Chemicals business.
(9) Other products and services exclude abatement revenue of $6.0 million.

Industry Overview

We are a global producer of inorganic specialty chemicals, materials and catalysts with leading supply positions across our portfolio. We operate through four principal businesses—Performance Chemicals, Catalysts, Specialty Glass Materials and Eco—that offer a broad set of product groups serving diverse end-uses and geographies.

We are an integrated producer throughout the silicates, catalysts and engineered glass products supply chain and the only major producer of both sodium silicates and engineered glass materials producing in each of the key geographic regions: North America, Europe, Asia-Pacific and Latin America. We are a global player across all of our product lines. Our highly-efficient network of plants is closely aligned with our key customers and provides us with a strong competitive position, as silicate plants are generally spread out locally with a few larger dedicated units for derivative production. Our Specialty Glass Materials facilities are also strategically positioned in close proximity to our customers, a competitive advantage in an industry where the ability to provide products "on-demand" is critical; our extensive manufacturing footprint and close proximity to customers allow us to respond quickly to demand resulting from unfavorable weather conditions or for short-lead time road development projects.

Our Eco business holds the number one supply share position in the United States in both sulfuric acid regeneration and the production of virgin sulfuric acid for merchant sales. Our network of facilities is concentrated in the major areas of sulfuric acid demand in the United States. These plants are located close to major U.S. refining customers and integrated through well-established supply chain networks, including in some cases captive pipelines connecting us to our oil refining customers.

Our Competitive Strengths

The following competitive strengths reinforce our industry leadership positions, contribute to our ability to generate what we believe are industry leading profit margins, support our innovation efforts and are expected to drive our ability to continue generating strong free cash flow in the future:

- ***Leading supply share positions.*** We believe that we maintain a leading supply share position in each of our major product lines, holding what we estimate to be number one or two supply share position for the year ended December 31, 2015 for more than 90% of the products we produce, based on volume, in North America, EMEA or Asia, as applicable, where the respective products are sold. Our supply share position is driven by our technical service and product leadership, our scale and our ability to efficiently serve our customers globally through our broad network of strategically located manufacturing facilities. In addition, our close proximity to many of our customers enhances our integration within their business processes and our ability to address supply chain needs with on time delivery. Across all of our businesses, we have achieved and maintained leading supply share positions by developing strong relationships with key customers and demonstrating the technical excellence and differentiated performance of our products. We believe these positions allow us to drive growth through continued innovation in our key products and have allowed us to outperform the industry, as a whole, in recessionary environments.
- ***Attractive industry structure.*** We hold leading positions in attractive industries, with strategically-located, cost-effective plants and long-term customer relationships, which, in combination, provide favorable industry dynamics. Attractive underlying fundamentals including localized product demand and a competitive advantage have allowed us to maintain margins throughout business and economic cycles. In our Performance Chemicals and Specialty Glass Materials businesses, many of our competitors are local or regional players. We believe that we have distinct cost advantages versus our competitors in these businesses, and we benefit from our strategically located manufacturing facilities due to the high cost of transportation relative to silicate and glass materials prices. Our geographic footprint is closely aligned

with our key customers, which we believe provides us with a strong competitive position. In Performance Chemicals, we believe that we also benefit from having manufacturing operations that target specific high margin niche products. In Specialty Glass materials, we contract on an annual basis, which allows for management of input costs and hedging of fuel needs. In our Catalysts business, we collaborate with our customers over many years to develop products that meet customized specifications and performance characteristics with strict quality and specification standards. In addition, we protect our technological and process innovations through our extensive portfolio of patents and through our trade secret protection program. While no one patent is crucial to our continued success, we believe our patent portfolio in the aggregate, combined with our extensive manufacturing network, reinforces our competitive advantage. In Eco, our regeneration business is highly integrated into our customers' sulfuric acid regeneration and supply activities, in some cases via captive pipeline connections. A significant portion of Performance Chemicals North America and Eco revenue is protected through long term contracts, some of which are "take or pay," with cost pass-throughs. Additionally, we believe that there are attractive macro fundamentals underpinning each of our four divisions. Performance Chemicals is aided by shifting customer preferences towards greener substitutes for personal care, household cleaning, and tire applications. Our Catalysts business is aided by the industrial buildout in petrochemicals and increased focus on emission control. Our Specialty Glass Materials business is aided by increasing highway safety regulations. We believe Eco is underpinned by growing sulfuric acid needs as a result of well-positioned North American refining customers and increased demand for high octane gasoline and increased alkylation from higher mix of tight/shale oil.

- ***Attractive, stable margins with near term synergy and cost savings upside.*** We have demonstrated our ability to maintain stable margins while continuously growing the business organically in different macroeconomic environments. From 2008 through 2015, PQ's Adjusted EBITDA margins and contribution margins (which refer to sales less variable costs excluding freight costs, divided by sales) averaged 22% and 55%, respectively, and did not vary significantly over that period. From 2008 through 2015, Eco's Adjusted EBITDA margins and contribution margins averaged 22% and 66%, respectively, and did not vary significantly over that period. Unlike many chemical companies that use oil-based materials as a feedstock, our products rely on inorganic inputs, which makes us less sensitive to the volatility associated with oil-related commodity prices. In addition, we have long-term relationships with our key raw materials suppliers across our businesses and our customers and have been able to mitigate the impact of raw material or energy prices using a variety of mechanisms, including hedging on a monthly basis and pass-through on a quarterly basis or adjustment provisions in our sales contracts. For the year ended December 31, 2015, approximately 45% of our North American Performance Chemicals sales and approximately 91% of Eco Sulfuric Acid sales were derived from pass-through contracts. We have also been able to favorably negotiate other terms to compensate for material increases in key inputs. This combination of differentiated products and pass-through contracts has allowed us to sustain attractive margins. Moreover, exposure to defensive industries such as personal care, cleaning products, tires, and gasoline creates greater volume stability in downturns. We have identified $21.7 million in synergies and gross cost savings opportunities the majority of which are related to the integration of Eco Services into our operations. We believe that we maintain a differentiated level of stability in margins and cash flow in the specialty chemical sector.

- ***Global and diverse end-uses.*** We serve a broad range of end-uses worldwide with no single end-use representing more than 18% of pro forma combined sales for the year ended December 31, 2015. Our Performance Chemicals, Catalysts and Specialty Glass Materials businesses benefit from global trends such as the growing global middle class, increased environmental regulations for emissions reduction and rising global energy consumption. Many of our largest end-uses, including transportation safety, laundry detergents, consumer cleaning, food and beverage and personal care, exhibit a low degree of cyclicality. The diversity of our remaining end-uses mitigates the impact of any one industry or regional cycle on our business. Our Eco business is benefitting from historically higher shale oil production in the United States and regulatory trends. Sulfuric acid serves as a key catalyst for refineries in the production of alkylate, which is considered to be the best blending component for gasoline because of its superior ability to boost octane and its low vapor pressure relative to substitutes such as ethanol and butane. For the year ended December 31, 2015, we generated approximately 68% of our pro forma combined sales in North America, 22% in Europe, 5% in Asia, 3% in South America and 2% in the rest of the world. In addition, we have benefited from the global trend toward more environmentally-friendly chemical solutions due to the inorganic nature of our products. The displacement of less environmentally-friendly chemicals in some applications will continue to drive higher growth rates as environmental concerns grow in magnitude and create opportunities for us to provide value-added solutions in these areas.

- ***Long-term relationships with a diverse set of high-quality customers.*** We have cultivated a diversified and loyal base of customers, many of which are leading companies in their respective industries. Our customers include AkzoNobel, Albemarle, Anheuser-Busch InBev, BASF, Chevron, Colgate-Palmolive, Dow Chemical, Evonik, ExxonMobil, GlaxoSmithKline, Halliburton, Henkel, Honeywell, INEOS Group, Johnson Matthey, LyondellBasell, Procter & Gamble, Rio Tinto, SAB Miller, SABIC, Schlumberger, Sherwin-Williams, Umicore, Unilever, W. R. Grace and 3M. The average length of our relationships with our top 10 customers is over 50 years. Additionally, we have a diversified customer base, with our top 10 customers representing approximately 25% of pro forma combined sales for the year ended December 31, 2015 and no single customer representing more than 4% of pro forma combined sales for that period. We collaborate with our customers over many years to develop products that meet customized specifications and performance characteristics with strict quality standards. The long lead-time for product development—between five and ten years in some cases—provides an excellent opportunity for our company to build deep working relationships with customers. We believe our proximity to customers provides distinct cost advantages and a competitive advantage given the high cost of transportation relative to silicate and glass material prices. Given that our products provide critical performance functions in the end-products for which they are used, yet typically represent a very small portion of the overall cost of such end-products, our key customers depend on us for continual supply of our products over a prolonged period of time.

- ***Proven ability to develop and commercialize new products.*** We leverage our state-of-the-art product development and commercialization platform to develop novel and highly customized products to meet evolving customer demand in the key regions around the world. We believe that our ability to collaborate closely with our customers to formulate innovative manufacturing and product solutions allows us to better serve them and is a key competitive advantage. For example, in our Performance Chemicals business, we have recently worked with our global European-based customers to optimize our manufacturing process to provide products for high whitening and desensitizing toothpaste applications that meet their particular specifications. We have also recently developed a new, environmentally-friendly, magnesium-silicate product that allows restaurants to clean and recycle oil used for frying food. As a result of our new product development and commercialization efforts, we estimate that we generated over $173 million of pro forma combined sales in the year ended December 31, 2015 from products or applications that have been developed or commercialized in the last five years. Moreover, since 2009, sales margins have improved in more than 78% of our product lines. Overall, our product mix has become more focused on specialty, high-value added customer solutions.

- ***Cash generative business model.*** Our business model is focused on high return capital projects with rapid payback periods. From 2011 through 2015, PQ invested $255 million of growth project capital with an estimated three- to four-year payback. During this period, PQ realized approximately $48 million of Adjusted EBITDA growth with additional projected Adjusted EBITDA growth in 2016 and 2017 from these projects still to be realized with minimal spending. From 2011 to 2015, PQ invested $31 million on cost improvement projects with an estimated two- to three-year payback. From 2008 to 2009, PQ integrated INEOS Silicas and realized certain synergy benefits, increasing the margins for this business from 12.3% before its acquisition in 2007 to 21.3% after its acquisition in 2009. We believe the relatively fast payback period on these benefits positions us to be prepared during shifting marketing environments. PQ has tax attributes that mainly consist of $288 million in U.S. federal net operating losses, along with correlative state net operating losses, and $460 million identified intangibles and goodwill from the 2014 Acquisition, both of which will generate cash tax savings in future years.

- ***Experienced management team.*** Our senior management team has substantial industry experience, proven capabilities and an average of over 30 years of experience in the performance chemicals, catalysts, specialty glass materials or sulfuric acid industries. Their industry experience extends to a broad range of facets of these industries, including acquisition integration, strategic management, manufacturing, sales and marketing, new product and applications development and financial management. Our management team was able to effectively guide PQ through the most recent recession by focusing on pricing actions, cost management, new product introductions and revising product offerings in order to shift towards more profitable and high growth end-uses. Our senior management team has a significant equity ownership interest in our company (approximately 10% of outstanding shares of New Holdings on a pro forma basis for the Business Combination).

Our Business Strategy

Our long-term success will be driven by our competitive strengths that will support our business strategy to continue to expand our product offering with higher margin innovative products. The key elements of our strategy are as follows:

- ***Continue to focus our development efforts on high margin products.*** We intend to maintain our position as a leading, integrated producer of silicate and glass materials. We plan to do this, in part, by capitalizing on our technological leadership positions and our proven research and development competencies by developing new products, applications and end-uses for our silicate-based chemicals, specialty catalysts, engineered glass materials, and sulfuric acid platforms. Across our businesses, we have a proven track record of commercializing new products. This capability has diversified our product mix away from lower-margin, lower-growth products such as zeolites for detergent end-uses and into higher-margin, higher-growth products such as magnesium silicate for frying oils, silica gels for coating applications and hollow glass spheres for emulsions for mining and auto body putty. For example, we have developed precipitated silica products for use in high whitening and desensitizing toothpaste and are developing new applications we hope to commercialize in the near future. We believe pursuing such opportunities will continue to result in profitable growth as we leverage our technological know-how and existing asset base developed from our core product lines. In addition, our new product development efforts are focused on applications with expected contribution margins greater than 50%.

  We have developed an industry-leading Catalysts business that has more than tripled its Adjusted EBITDA since 2005 and has achieved an average Adjusted EBITDA margin of approximately 37% over the same time period. This growth has been achieved through development of our proprietary technology, and we have made over $200 million in investments since 2005 to expand our manufacturing and technical capabilities and to increase capacity. In advance of committing to capital investments, we have been able to secure sole-source supply arrangements or have entered into long-term contracts with contracted volumes across both silica and specialty zeolite-based catalysts, and we expect our percentage of sales under long-term contracts to increase in the future. We expect to achieve high margins on sales from products related to these capital investments and to commit relatively low ongoing maintenance capital expenditures. We expect to achieve an approximately two-year payback, from the date those assets are placed in service, on the projects for which we have committed capital, and we expect to commit additional capital to serve newly contracted customers.

As we continue to improve our technological advantage and our ability to serve our customers, we expect to continue to achieve high-return growth in this business line. Our products offer essential functional properties and are tailored to meet specific customer requirements, but represent a relatively low percentage of our customers' manufacturing costs. We believe that our products help our customers to manufacture their products more cost-effectively and with better performance characteristics than competing technologies. For example, we believe our silica-based catalysts have continued to win opportunities in both new and existing polymerization and engineered plastics applications due to these characteristics.

We believe that our specialty zeolite-based catalyst products and the end-uses they serve are well-aligned with several favorable global trends. The largest business in our specialty zeolite-based catalyst platform serves emissions control applications, particularly in the transportation industry, and we are strategically aligned with the top specialty zeolite-based catalysts producers in emissions control technologies. We believe the tightening of global emissions control standards has driven a reformulation of Heavy-Duty Diesel ("HDD") engine catalysts, which relies on SCR, a zeolite-based catalytic process. In addition, we sell hydrocracking catalysts and Y-Powder zeolite material, which is a key component of critical hydrocracking catalysts; our joint venture partner, CRI Zeolites Inc. (a subsidiary of Royal Dutch Shell plc), is a leader in hydrocracking catalytic processes technology. Approximately 61% of the specialty zeolite-based catalyst sales during the year ended December 31, 2015 in these product lines were related to products that are protected by patents or sole-sourced.

- ***Drive efficiency and cost savings.*** We intend to enhance our business processes and pursue cost savings opportunities available to us, especially in our Eco business. We will continue to pursue manufacturing efficiency gains through a number of initiatives already underway including lean manufacturing, investing in high return capital projects, and optimizing capacity to leverage our fixed cost base. We have identified $21.7 million in synergies and gross cost savings opportunities the majority of which are related to the integration of Eco Services into our operations. We may not realize these expected cost savings, see "Risk Factors—Risks Related to the Business Combination—We may not realize the expected benefits of the Business Combination because of integration difficulties and other challenges" and "Risk Factors—Risks Related to the Business Combination—We may be unable to realize anticipated cost savings or may incur additional and/or unexpected costs in order to realize them."
- ***Focus on cash flow generation and debt reduction.*** We intend to continue to seek growth in our high margin products, while managing our costs and taking a disciplined approach to capital spending and working capital control. We have historically achieved cost savings through continuous improvement, yield enhancement, and energy improvement initiatives and expect to continue to do so. We have also invested capital and expect to continue to do so in order to achieve cost savings and support our existing high quality fixed assets and customers. We will also seek to grow our assets and customer base on a targeted basis to achieve compelling returns. We otherwise intend to use our excess cash flow to reduce our outstanding indebtedness.

Recent Developments

Each of PQ and Eco are in the process of finalizing their results of operations and other financial data for the three months ended March 31, 2016. While our full financial results for such period are not available, management currently estimates as follows:

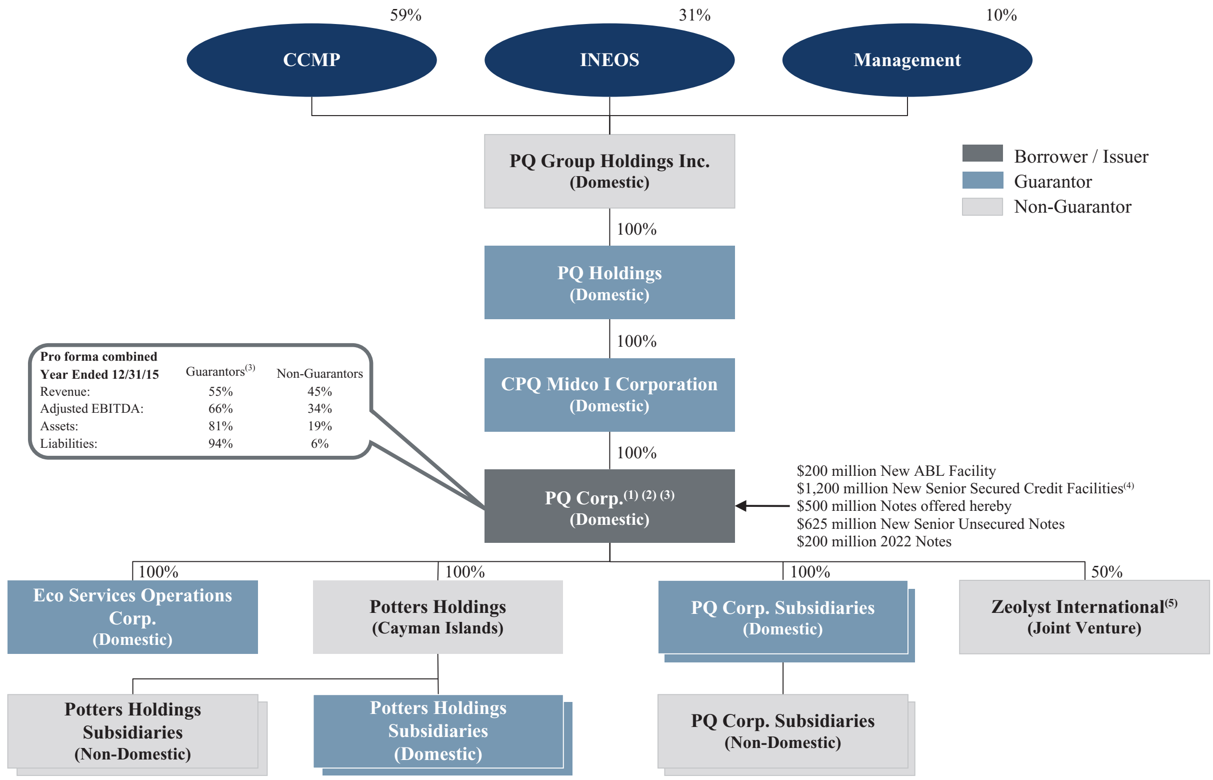
- As of March 31, 2016 on a pro forma basis for the Business Combination, the combined company had cash on hand of approximately $79 million and approximately $17 million outstanding in the aggregate under the Existing PQ Revolving Facility and the Eco Revolving Facility for seasonal working capital requirements.
- On a pro forma basis, the combined company's first quarter 2016 sales are expected to decrease slightly from the first quarter of 2015 while the combined company's first quarter 2016 Adjusted EBITDA is expected to be slightly higher than the first quarter of 2015.
- PQ's stand-alone sales for the first quarter of 2016 are expected to be lower compared to the first quarter of 2015, primarily due to the impact of foreign exchange fluctuations.
- Eco's stand-alone sales for the first quarter of 2016 are expected to be higher compared to the first quarter of 2015, primarily due to increased sales volumes in its sulfuric acid regeneration business.
- Eco is accruing approximately $3 million in additional severance cost for the reduction in workforce related to anticipated cost savings in connection with the Business Combination.

The estimated financial results presented in this section are preliminary, unaudited and subject to the completion of PQ's and Eco's financial closing procedures for the three months ended March 31, 2016 for each of Eco and PQ. Those procedures have not yet been completed, and the estimated financial results should not be viewed as a substitute for full quarterly financial statements prepared in accordance with U.S. GAAP and reviewed or audited by the independent accountants for PQ or Eco. Estimates of results are inherently uncertain and subject to change, and we undertake no obligation to update this information. Actual results remain subject to the completion of management's and the audit committee's final review, as well as review by the independent accountants.

There can be no assurances that the actual financial results for the three months ended March 31, 2016 will be identical to the estimates set forth herein and any variation may be material. The preliminary financial data included in this offering memorandum has been prepared by, and is the responsibility of, management. PricewaterhouseCoopers LLP has not audited, reviewed, compiled or performed any procedures with respect to the accompanying preliminary financial data. Accordingly, PricewaterhouseCoopers LLP does not express an opinion or any other form of assurance with respect thereto. See "Cautionary Disclosure Regarding Forward-Looking Statements."

Our Corporate Structure

The following chart illustrates our ownership structure (on a simplified basis) and principal indebtedness after giving effect to the Business Combination and the related financing transactions:



(1) As part of the Business Combination, Eco will be merged with and into PQ Corporation, with PQ Corporation as the surviving entity. Pursuant to the indenture governing Eco's 2022 Notes, PQ Corporation will assume the obligations of Eco under the 2022 Notes and the indenture governing the 2022 Notes.

(2) After the consummation of the Business Combination, our New Senior Secured Credit Facilities, the New Senior Unsecured Notes, the 2022 Notes and the Notes offered hereby will be guaranteed by PQ Corporation's existing and future domestic subsidiaries to the extent such entities are guarantors under our New Term Loan Facility and will also be guaranteed by PQ Holdings and CPQ solely for financial reporting purposes. See "Description of the Notes—Guarantees."

(3) The obligations of the Canadian and European borrowers under our New ABL Facility will be guaranteed by certain of our subsidiaries in those respective jurisdictions. The Notes offered hereby will not be guaranteed by certain of our Canadian or European subsidiaries.

(4) Consists of a $900 million U.S. dollar-denominated tranche and a Euro-denominated tranche in the amount of $300 million (based on the exchange rate as of the closing date).

(5) For the year ended December 31, 2015, Zeolyst International, one of our Catalyst joint ventures, had sales of $319.6 million. As of December 31, 2015, the total assets and liabilities of Zeolyst International were $282.5 million and $47.2 million, respectively.

The Business Combination

The purpose of the Reorganization Agreement is to implement the Business Combination through a series of steps including (i) the merger of Merger Sub with and into PQ Holdings, with PQ Holdings surviving the merger and becoming a direct, wholly owned subsidiary of New Holdings, (ii) the merger of Group Holdings Merger Sub LLC with and into Group Holdings, with Group Holdings surviving the merger and becoming a direct, wholly-owned subsidiary of New Holdings, (iii) the merger of Group Holdings with and into New Holdings, with New Holdings surviving the merger, (iv) the merger of Eco Holdings with and into PQ Holdings, with PQ Holdings surviving the merger, (v) the merger of Eco with and into PQ Corp, with PQ Corp surviving the merger and (vi) the drop down of the assets comprising the Eco business into Eco Services Operations Corp., a wholly owned subsidiary of PQ Corporation. As a result of these transactions, New Holdings will become the indirect holder of all of the issued and outstanding equity of PQ Holdings.

Our Principal Stockholders

In December 2014, affiliates of CCMP completed the acquisition of an approximate 49% equity interest in PQ Holdings, Inc. INEOS Investments Partnership ("INEOS") and members of PQ management own the remaining 51% equity interest in PQ Holdings, Inc. Also in December 2014, affiliates of CCMP acquired an approximate 95% equity interest in Eco Services Group Holdings LLC, the indirect parent of Eco Services Operations LLC, with members of Eco's management holding the remaining 5% equity interest in Eco Services Group Holdings LLC. After the consummation of the Business Combination, affiliates of CCMP, INEOS and members of management and our board of directors will own approximately 59%, 31%, and 10%, respectively, of New Holdings, the direct parent of PQ Holdings as of the closing of the Business Combination.

CCMP is a leading global private equity firm specializing in buyouts and growth equity investments in companies ranging from $250 million to more than $3 billion in assets. CCMP's founders have invested over $16 billion since 1984, which includes their activities at J.P. Morgan Partners, LLC (a private equity division of JPMorgan Chase & Co.) and its predecessor firms. CCMP was formed in August 2006 when the buyout and growth equity investment professionals of J.P. Morgan Partners, LLC separated from JPMorgan Chase & Co. to commence operations as an independent firm. The foundation of CCMP's investment approach is to leverage the combined strengths of its deep industry expertise and proprietary operating resources to create value by investing in four targeted industries—Industrials, Energy/Chemicals, Consumer/Retail and Healthcare.

INEOS is affiliated with the INEOS Group, one of the world's leading chemical companies and a global manufacturer of petrochemicals, specialty chemicals and oil products. The INEOS Group's business has highly integrated, world-class chemical facilities and production technologies. As of December 15, 2015, the INEOS Group operated 65 manufacturing sites in 16 countries throughout the world, including petrochemical facilities in Europe, which are co-located and fully integrated with refineries. The INEOS Group produces more than 60 million tons of petrochemicals, employs approximately 17,000 people and has annual sales of around $54 billion.

Additional Information

PQ Corporation was incorporated in Pennsylvania on April 16, 1904. Our principal executive offices are located at 300 Lindenwood Drive, Valleybrooke Corporate Center, Malvern, Pennsylvania 19355, and our telephone number is (610) 651-4400. Our website address is www.pqcorp.com. The information that appears on our website is not part of, and is not incorporated into, this offering memorandum.

The Offering

The following is a brief summary of some of the terms of this offering. Some of the terms and conditions described below are subject to important limitations and exceptions. For a more complete description of the terms of the Notes and the related security documents and intercreditor agreements, see "Description of the Notes" in this offering memorandum.

Issuer	PQ Corporation.
Notes Offered	$500 million aggregate principal amount of % Senior Secured Notes due 2022.
Maturity	The Notes will mature on , 2022 (a date that will be approximately six and one half years after the date the Notes are issued).
Interest	Interest on the Notes will accrue at a rate of % per annum, payable semi-annually in cash in arrears on and of each year, commencing .
Security	The Notes and the guarantees are secured, subject to certain permitted liens and exceptions; (i) by a first-priority security interest in substantially all of our and the guarantors' property and assets that secure our New Term Loan Facility (other than collateral securing our New ABL Facility on a first-priority basis) and (ii) by a second-priority security interest in receivables, inventory, deposit accounts and other collateral securing our New ABL Facility. The liens securing the Notes and the guarantees are *pari passu* with the liens securing our New Term Loan Facility subject to the *pari passu* intercreditor agreement and subordinated to the liens securing our New ABL Facility on a first-priority basis subject to the New ABL Facility intercreditor agreement.
Guarantees	The Notes will be initially guaranteed, jointly and severally, on a senior secured basis by CPQ, PQ Holdings and each of our existing and future domestic subsidiaries to the extent such entities are guarantors under our New Term Loan Facility. See "Description of the Notes—Guarantees." For the year ended December 31, 2015, our non-guarantor subsidiaries represented approximately 35% of our pro forma combined sales and 32% of our Pro Forma Combined Adjusted EBITDA. In addition, these non-guarantor subsidiaries represented approximately 19% of our pro forma combined total assets and $174.5 million, or 6% of our pro forma combined total liabilities as of December 31, 2015.
Ranking	The Notes and guarantees thereof are our and the guarantors' general senior secured indebtedness. They will rank: • equally in right of payment with all of our and the guarantors' existing and future unsubordinated indebtedness (including the New Senior Secured Credit Facilities, the New Senior Unsecured Notes and the 2022 Notes);

- effectively senior to all of our and the guarantors' existing and future unsubordinated indebtedness that is not secured, to the extent of the value of the collateral securing the Notes;
- *pari passu* with all of our and the guarantors' existing and future unsubordinated indebtedness secured by a first priority lien on the collateral securing the Notes (including the New Term Loan Facility);
- effectively subordinated to the New ABL Facility to the extent of the value of the assets securing the New ABL Facility on a first priority basis;
- senior in right of payment to all of our and the guarantors' future subordinated indebtedness; and
- structurally subordinated to all existing and future indebtedness, claims of holders of preferred stock and other liabilities of our subsidiaries that do not guarantee the Notes.

As of December 31, 2015, after giving effect to the Business Combination and the related financing transactions, we and the guarantors would have had approximately $2,549 million aggregate principal amount of senior debt outstanding (including the Notes offered hereby), $1,200 million under our New Term Loan Facility, $625 million of New Senior Unsecured Notes, $200 million of 2022 Notes and $24.4 million of other debt. $1,722 million of such amount would have been secured debt, consisting of $1,200 million under our New Term Loan Facility, $500 million of Notes offered hereby, $21 million related to New Market Tax Credits as described in "Description of Other Indebtedness" and $1.2 million of capital leases. We and the guarantors would also have had $200 million of borrowing capacity under our New ABL Facility (excluding $5.3 million of outstanding letters of credit), subject to certain limitations. We are permitted to draw on the New ABL Facility on the closing date of the Business Combination in an aggregate principal amount up to $75 million to finance the Business Combination or for working capital needs. Based on estimated working capital needs as of the closing date of the Business Combination, we expect to have $44 million outstanding on the New ABL Facility at the closing of this offering.

For the year ended December 31, 2015, our non-guarantor subsidiaries represented approximately 35% of our total pro forma combined sales and 32% of our Pro Forma Combined Adjusted EBITDA. In addition, after giving pro forma effect to the Business Combination and the related financing transactions, these non-guarantor subsidiaries represented approximately 19% of our pro forma combined total assets and $174.5 million, or 6% of our pro forma combined total liabilities as of December 31, 2015.

Optional Redemption	On or after , 2019, we may redeem the Notes, in whole or in part, at any time at the redemption prices described under "Description of the Notes—Optional Redemption." In addition, we may redeem up to 40% of the aggregate principal amount of the Notes before , 2019 with the net cash proceeds from certain equity offerings at a redemption price of % of the principal amount plus accrued and unpaid interest, if any, to, but not including, the redemption date. We may also redeem some or all of the Notes before 2019 at a redemption price of 100% of the principal amount, plus accrued and unpaid interest, if any, to, but not including, the redemption date, plus a "make whole" premium.
Change of Control	If we experience a defined change of control we may be required to offer to repurchase the Notes at a price equal to 101% of the principal amount of the Notes, plus accrued and unpaid interest, if any, to, but not including, the date of purchase. See "Description of the Notes—Repurchase at the Option of Holders—Change of Control."
Mandatory Offer to Repurchase Following Certain Asset Sales	If we sell certain assets under certain circumstances we must offer to repurchase the Notes at par, plus accrued and unpaid interest to, but not including, the date of purchase as described under "Description of the Notes—Repurchase at the Option of Holders—Asset Sales."
Special Mandatory Offer to Purchase . . .	If six months prior to November 1, 2022 (i.e., the final stated maturity of the Existing Senior Notes), any of the Existing Senior Notes remain outstanding, the holders of the Notes may require us to repurchase all or any part of such holder's Notes at par, plus accrued and unpaid interest, if any, to the date of repurchase, pursuant to an offer on the terms set forth in the Indenture. See "Description of the Notes—Special Mandatory Offer to Purchase."
Certain Covenants	The indenture contains covenants that, among other things, will limit the issuer's ability and the ability of its restricted subsidiaries to: • incur, assume or permit to exist additional indebtedness (including guarantees thereof); • pay dividends or certain other distributions on our capital stock or repurchase our capital stock or prepay subordinated indebtedness; • incur liens on assets; • make certain investments or other restricted payments; • allow to exist certain restrictions on the ability of our restricted subsidiaries to pay dividends or make other payments to us; • engage in transactions with affiliates; and • sell certain assets or merge or consolidate with or into other companies.

	These covenants will be subject to a number of important limitations and exceptions. In addition, if and for so long as the Notes have an investment grade rating from Moody's and S&P, and no default exists under the indenture governing the Notes, we will not be subject to certain of the covenants listed above. For more details, see "Description of the Notes—Certain Covenants."
No Registration Rights	The Notes have not been and will not be registered under the Securities Act and may not be offered or sold except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act. The absence of registration rights may adversely impact the transferability of the Notes. See "Notice to Investors" and "Risk Factors—Risks Related to the Notes—Holders of the Notes will not be entitled to registration rights, and we do not currently intend to register the Notes under applicable securities laws. There are restrictions on your ability to transfer or resell the Notes without registration under applicable securities laws."
Transfer Restrictions	The issuance of the Notes has not been registered under the Securities Act or any state securities laws, and the Notes are subject to certain restrictions on transfer. See "Notice to Investors."
Use of Proceeds	We intend to use net proceeds from this offering, together with borrowings under the New Term Loan Facility and the New ABL Facility (if any) and proceeds of the New Senior Unsecured Notes and cash on hand, to (i) repay the Eco Term Facility and any amounts outstanding under the Eco Revolving Facility, (ii) repay the Existing PQ Term Facility and any amounts outstanding under the Existing PQ Revolving Facility and (iii) redeem all of the outstanding 2018 Notes. See "Use of Proceeds."
Absence of Established Market for the Notes	The Notes will be a new class of securities for which there is currently no market. Although certain of the initial purchasers have informed us that they intend to make a market in the Notes, such initial purchasers are not obligated to do so, and may discontinue market-making activities at any time without notice. Accordingly, we cannot assure you that a liquid market for the Notes will develop or be maintained.
Risk Factors	See "Risk Factors" and the other information in this offering memorandum for a discussion of the factors you should carefully consider before deciding to invest in the Notes.

SUMMARY HISTORICAL FINANCIAL AND UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL AND OTHER DATA

The following tables set forth certain unaudited pro forma condensed combined financial and other data for the year ended December 31, 2015. The summary unaudited pro forma condensed combined financial data set forth below should be read in conjunction with "Use of Proceeds," "Capitalization," "Unaudited Pro Forma Condensed Combined Financial Statements," "Selected Consolidated Financial Data of PQ Holdings," "Selected Consolidated Financial Data of Eco," "Management's Discussion and Analysis of Financial Condition and Results of Operations of PQ Holdings," "Management's Discussion and Analysis of Financial Condition and Results of Operations of Eco" and the consolidated financial statements and the related notes thereto of each of PQ Holdings and Eco, each of which is included elsewhere in this offering memorandum. In accordance with U.S. GAAP, Eco is the accounting predecessor to New Holdings.

The summary unaudited pro forma condensed combined financial data presented below have been derived from the historical consolidated financial statements of PQ Holdings and Eco included elsewhere in this offering memorandum using the acquisition method of accounting and give effect to the Business Combination and the related financing transactions in each case, as if they had occurred on December 31, 2015 for purposes of the unaudited pro forma condensed combined balance sheet data and as of January 1, 2015 for purposes of the unaudited pro forma condensed combined statement of income, as more fully described in the assumptions and adjustments set forth under the section entitled "Unaudited Pro Forma Condensed Combined Financial Statements." The unaudited pro forma condensed combined financial data is presented for informational purposes only, is based on currently available information and is not necessarily indicative of our financial position or results of operations that would have occurred had the pro forma transactions taken place on the applicable dates, nor are they necessarily indicative of future results.

The unaudited pro forma adjustments reflecting the Business Combination and related refinancing transactions will be based upon the acquisition method of accounting and upon the assumptions set forth in the Notes included in this section and in "Unaudited Pro Forma Condensed Combined Financial Statements." The unaudited pro forma adjustments and allocation of the excess acquisition purchase price over the tangible and intangible net assets acquired to intangible assets and goodwill are preliminary and based on management's best estimate of the fair value of intangible assets acquired relating to the Business Combination. The final purchase price allocation for the Business Combination is dependent on, among other things, the finalization of asset and liability valuations. As of the date of this offering memorandum, we have not completed the valuation studies necessary to estimate the fair values of the assets acquired and liabilities assumed and the related allocation of the purchase price for the Business Combination. We have allocated the total estimated purchase price for the Business Combination, calculated as described in Note 1 under "Unaudited Pro Forma Condensed Combined Financial Statements" to the assets acquired and liabilities assumed based on preliminary estimates of their fair values. In arriving at the estimated fair market values, we have considered many factors, including but not limited to, the appraisals by independent consultants which were based on a preliminary and limited review of the assets to be acquired and the liabilities to be assumed. There are no assurances that the final estimate of fair market values of the acquired assets and assumed liabilities will not be materially different from the estimated fair market values thereof once a more detailed and thorough review of acquired assets and assumed liabilities is performed. The final valuation will be based on the actual net tangible and intangible assets that exist as of the closing date of the Business Combination. Final adjustments relating to the Business Combination will change the allocations of purchase price, which will affect the fair value assigned to certain assets acquired and liabilities assumed and will result in a change to the unaudited pro forma condensed combined financial statements, including a change to goodwill. Therefore, the actual adjustments will differ from the pro forma adjustments, and the differences may be material.

	Pro Forma Year Ended December 31, 2015
	(dollars in thousands)
Statement of operations data:	
Sales	$1,413,201
Cost of goods sold	1,035,728
Gross profit	377,473
Selling, general and administrative expenses	155,781
Other operating expense, net	87,689
Operating income (loss)	134,003
Equity in net income from affiliated companies	37,786
Interest expense, net	215,422
Debt extinguishment costs	—
Other expense (income), net	21,383
Income (loss) before income taxes and noncontrolling interest	(65,016)
Provision (benefit) for income taxes	(5,729)
Net (loss) income	(59,287)
Less: Net income attributable to the noncontrolling interest	1,771
Net (loss) income attributable to Combined Company	$ (61,058)
Balance sheet data (at end of period):	
Cash and cash equivalents	$ 21,564
Net working capital(1)	169,988
Property, plant and equipment, net	1,117,525
Total assets	4,274,034
Total liabilities	3,222,691
Total debt, including current portion	2,478,824
Total stockholders' equity	1,051,343
Non-GAAP and other financial and operating data:	
Pro Forma Combined Adjusted EBITDA(2)	$ 433,630
Pro Forma Combined Adjusted EBITDA margin(2)(3)	27.6%
Maintenance capital expenditures(4)	117,501
Expansion capital expenditures(4)	33,466
Total capital expenditures	150,967
Free cash flow(5)	316,129
Pro forma cash interest expense(6)	210,738
Pro forma net senior secured debt	1,678,436
Ratio of net senior secured debt to Pro Forma Combined Adjusted EBITDA(7)	3.9x
Ratio of net total debt to Pro Forma Combined Adjusted EBITDA(8)	5.8x
Ratio of Pro Forma Combined Adjusted EBITDA to pro forma cash interest expense(9)	2.1x

(1) Net working capital is defined as current assets minus current liabilities minus cash and cash equivalents.

(2) We present Pro Forma Combined Adjusted EBITDA as a supplemental measure of our performance. See "Non-GAAP Financial Measures." We derived Pro Forma Combined Adjusted EBITDA from the pro forma financial information contained in "Unaudited Pro Forma Condensed Combined Financial Statements" and the presentation of Adjusted EBITDA of PQ Holdings and Eco and Pro Forma Combined Adjusted EBITDA margin as Pro Forma Adjusted EBITDA margin of PQ Holdings and Eco. Adjusted EBITDA of

both Eco Services and PQ Holdings, each derived from the definition of Adjusted EBITDA in their respective credit agreements, further adjusted to give effect to the Business Combination and the related financing transactions. The individual pro forma combined adjustments represent the allowable adjustments under the respective credit agreements for PQ Holdings and Eco Services. As the credit agreements of PQ Holdings and Eco Services define Adjusted EBITDA differently, the combined adjustments for a respective category may not be consistent with the definitions of each company individually. The combined adjustments represent our expected Adjusted EBITDA on a pro forma basis.

The following table provides a reconciliation of our pro forma net loss to Pro Forma Combined EBITDA and Pro Forma Combined Adjusted EBITDA for the period presented:

	Pro Forma Year Ended December 31, 2015
	(dollars in thousands)
Reconciliation of net loss to Pro Forma Combined Adjusted EBITDA	
Net loss attributable to Combined Company.	$ (61,058)
Benefit for income taxes	(5,729)
Interest expense, net	215,422
Depreciation and amortization	169,597
Pro Forma Combined EBITDA	$318,232
Acquisition accounting fair value adjustment(a)	9,926
Impairment of long-lived assets(b)	425
Transaction-related costs(c)	14,983
Intercompany foreign currency exchange loss(d)	23,792
Management advisory fees(e)	5,590
Restructuring, integration and business optimization expense(f)	8,643
Equity-based and other non-cash compensation	5,614
Net loss on asset disposals(g)	5,459
Transition services(h)	4,882
Joint venture depreciation, amortization, and interest(i)	7,928
Other(j)	6,418
Estimated synergies and cost savings opportunities(k)	21,738
Pro Forma Combined Adjusted EBITDA	$433,630

(a) Represents the pro forma annual amortization of the net acquisition accounting fair value adjustments associated with the equity affiliate investment in Zeolyst International and consists primarily of intangible assets such as customer relationships and formulations and product technology.

(b) Reflects a $0.4 million non-cash impairment charge on property, plant and equipment at a PQ facility that was closed in 2015.

(c) Relates to transaction costs of approximately $4.2 million incurred for the completion of the 2014 Acquisition and transaction costs of approximately $10.7 million incurred for completed, pending and abandoned deals at PQ Holdings.

(d) This adjustment is made to exclude the negative or positive transaction gains and losses of foreign currency in the income statement related to the non-permanent intercompany debt denominated in local currency translated to U.S. dollars at PQ.

(e) Reflects management sponsor fees from Eco and PQ Holdings' existing consulting agreements. The management sponsor fee is expected to continue on a pro forma basis. See "Certain Relationships and Related Party Transactions—Consulting Agreements with CCMP and INEOS."

(f) Relates to restructuring and integration costs, including severance costs, costs associated with plant closings and consolidation, relocation or integration costs and other non-recurring business optimization and restructuring charges of approximately $4.5 million for PQ and approximately $4.1 million for Eco.

(g) Reflects the gain/loss on any sale or disposal of long-lived assets.

(h) Represents costs under a transition services agreement with Solvay which provides certain transition services to Eco by Solvay following the 2014 Acquisition. The transition services agreement ended in 2015. Certain services under this agreement will be incurred internally and reflected as an operating expense in the consolidated statement of operations.

(i) Represents the Catalyst joint ventures depreciation, amortization and interest expense.

(j) Relates primarily to environmental related costs of $2.0 million, defined benefit periodic pension costs of $6.1 million, other transaction gains of foreign currency in the income statement of $2.7 million and Sarbanes-Oxley preparation fees of $1.0 million as well as non-cash LIFO adjustment and expense, non-recurring legal-related costs, capital taxes, asset retirement obligation accretion and other expense.

(k) Represents estimated identified run-rate synergies and cost savings opportunities, including (i) Eco overhead savings of $4.4 million resulting from consolidation synergies, insurance savings and SG&A savings, (ii) Eco manufacturing improvements of $8.1 million resulting from cost improvements, higher labor productivity and lower fixed freight costs and (iii) PQ cost reductions of $9.2 million resulting from ongoing fixed and variable cost programs and other programs already in progress or approved by PQ's board of directors.

(3) Pro Forma Combined Adjusted EBITDA margin is Pro Forma Combined Adjusted EBITDA divided by pro forma sales plus PQ Holdings' proportionate share of the Catalyst Joint Venture sales.

(4) Maintenance capital expenditures include spending on maintenance of business, cost savings initiatives and health, safety and environmental initiatives. Expansion capital expenditures include spending to drive organic sales growth. These capital expenditures represent "book" capital expenditures for which both PQ and Eco recorded, but not necessarily paid for the capital expenditures.

(5) Free cash flow is defined as Pro Forma Combined Adjusted EBITDA less maintenance capital expenditures. Maintenance capital expenditures include spending on maintenance of business, cost savings initiatives and health, safety and environmental initiatives.

(6) Pro forma cash interest expense is defined as the cash interest paid during the period on a pro forma basis and differs from interest expense in the income statement which includes amortization of deferred financing fees. Pro forma cash interest expense assumes a weighted average interest rate for the New Term Loan Facility, the New Senior Unsecured Notes, the existing Eco Notes and Notes offered hereby of approximately 8.2%. For every 0.125% change in the assumed weighted average interest rate for the New Term Loan Facility and the Notes offered hereby, assuming the New ABL Facility is undrawn, pro forma cash interest expense would increase or decrease, as applicable, by $2.3 million.

(7) Ratio of pro forma net secured total debt to Pro Forma Combined Adjusted EBITDA represents our pro forma total debt that is secured by a lien other than $21 million of debt related to New Market Tax Credits described in "Description of Other Indebtedness" less our pro forma cash and cash equivalents divided by Pro Forma Combined Adjusted EBITDA.

(8) Ratio of pro forma net total debt to Pro Forma Combined Adjusted EBITDA represents our pro forma total debt other than $21 million of debt related to New Market Tax Credits less our pro forma cash and cash equivalents divided by Pro Forma Combined Adjusted EBITDA.

(9) Ratio of Pro Forma Combined Adjusted EBITDA to pro forma cash interest expense represents Pro Forma Combined Adjusted EBITDA divided by our pro forma cash interest expense.

Historical Condensed Consolidated Financial and Other Data

PQ Holdings Inc.

The following tables set forth certain summary historical condensed consolidated financial and other data of PQ Holdings, as of and for the three years ended December 31, 2014 and 2015. PQ Holdings' statements of operations and other financial data for the years ended December 31, 2013, 2014 and 2015 was derived from the audited consolidated financial statements of PQ included elsewhere in this offering memorandum. The summary historical consolidated financial data set forth below should be read in conjunction with "Presentation of Financial Information," "Use of Proceeds," "Capitalization," "Selected Consolidated Financial Data of PQ Holdings," "Management's Discussion and Analysis of Financial Condition and Results of Operations of PQ Holdings" and PQ Holdings' consolidated financial statements and the related notes thereto each of which is included elsewhere in this offering memorandum.

	Year Ended December 31,		
	2013	2014	2015
	(dollars in thousands)		
Statement of operations data:			
Sales	$1,085,019	$1,114,904	$1,024,326
Cost of goods sold	795,416	818,483	748,756
Gross profit	289,603	296,421	275,570
Selling, general and administrative expenses	111,229	110,886	107,097
Goodwill impairment charge	—	—	—
Other operating expense, net	49,373	71,148	51,516
Operating income	129,001	114,387	116,957
Equity in net income from affiliated companies, net	53,808	29,359	45,325
Interest expense, net	120,347	111,553	108,375
Debt extinguishment costs	20,287	2,476	—
Other expense, net	3,316	23,886	21,383
Income before income taxes and noncontrolling interest	38,859	5,831	32,524
Provision for income taxes	10,608	7,548	22,902
Net (loss) income	28,251	(1,717)	9,622
Less: net income attributable to the noncontrolling interest	1,521	1,894	1,771
Net income (loss) attributable to PQ Corporation	$ 26,730	$ (3,611)	$ 7,851
Balance sheet data (at end of period):			
Cash and cash equivalents	$ 117,749	$ 100,836	$ 53,507
Net working capital (current assets minus current liability minus cash and cash equivalents)	153,980	135,247	140,887
Property, plant and equipment, net	510,345	546,716	569,168
Total assets	2,379,308	2,310,262	2,268,084
Total liabilities	2,232,422	2,212,714	2,191,967
Total debt, including current portion	1,809,201	1,807,404	1,803,763
Total stockholders' equity	146,886	97,548	76,117
Cash flow data:			
Net cash provided by (used in):			
Operating activities	$ 115,898	$ 120,410	$ 98,896
Investing activities	(125,358)	(114,032)	(125,114)
Financing activities	6,929	(14,787)	(10,379)
Non-GAAP and other financial and operating data:			
Adjusted EBITDA(1)	$ 306,795	$ 288,101	$ 295,441
Adjusted EBITDA margin(1)(2)	28.3%	25.8%	28.8%
Maintenance capital expenditures(3)	$ 56,516	$ 63,462	$ 77,362
Expansion capital expenditures(3)	24,374	55,693	32,611
Total capital expenditures	80,890	119,155	109,973
Free cash flow(4)	248,661	220,712	218,057

(1) PQ Holdings presents EBITDA and Adjusted EBITDA as supplemental measures of its performance. EBITDA consists of net income (loss) attributable to PQ Holdings Inc. before interest, taxes, depreciation and amortization. Adjusted EBITDA consists of EBITDA adjusted for (i) non-operating income or expense and (ii) the impact of certain non-cash, non-recurring or other items that are included in net income and EBITDA that we do not consider indicative of our ongoing operating performance. See "Non-GAAP Financial Measures."

The following table reconciles net income (loss) attributable to PQ Holdings Inc. to EBITDA and Adjusted EBITDA for the periods presented:

	Year Ended December 31,		
	2013	**2014**	**2015**
	(dollars in thousands)		
Reconciliation of net income (loss) to Adjusted EBITDA			
Net income (loss) attributable to PQ Holdings, Inc.	$ 26,730	$ (3,611)	$ 7,851
Provision (benefit) for income taxes	10,608	7,548	22,902
Interest expense, net	120,347	111,553	108,375
Depreciation and amortization(a)	89,306	91,342	93,122
EBITDA	246,991	206,832	232,250
Acquisition accounting fair value adjustment(a)	2,387	2,387	2,387
Impairment of long-lived assets(b)	948	—	425
Transaction-related costs(c)	5,594	24,405	10,742
Foreign currency exchange loss (gain)(d)	3,709	24,269	23,792
Management advisory fees(e)	5,000	5,000	5,000
Restructuring, integration and business optimization expenses(f)	5,449	4,572	4,496
Equity-based and other non-cash compensation	1,011	—	3,358
Debt extinguishment costs	20,287	2,476	—
Net loss (gain) on asset disposals(g)	653	694	1,548
Joint venture depreciation, amortization and interest(h)	6,128	6,941	7,928
Other(i)	8,638	10,525	3,515
Adjusted EBITDA	$306,795	$288,101	$295,441

(a) Represents the annual amortization of the net acquisition accounting fair value adjustments associated with the equity affiliate investment in Zeolyst International and consists primarily of intangible assets such as customer relationships and formulations and product technology.
(b) Reflects a $0.4 million non-cash impairment charge on property, plant and equipment at one of our facilities that was closed in 2015 and a $0.9 million non-cash impairment charge on non-operating property, plant and equipment at one of our facilities in 2013.
(c) Relates to transaction costs incurred for completed, pending and abandoned deals.
(d) Reflects the exclusion of the negative or positive transaction gains and losses of foreign currency in the income statement specifically related to the non-permanent intercompany debt denominated in local currency translated to U.S. dollars.
(e) Reflects management sponsor fees from PQ Holdings' existing consulting agreements.
(f) Relates to restructuring and integration costs, including severance costs, costs associated with plant closings and consolidation, relocation or integration costs and other non-recurring business optimization and restructuring charges.
(g) Reflects the gain/loss on any sale or disposal of long-lived assets.
(h) Represents the Catalyst joint ventures depreciation, amortization and interest expense.

(i) Relates primarily to environmental remediation charges of $2.0 million in the year ended December 31, 2015, defined benefit periodic pension cost of $3.2 million in the year ended December 31, 2015, other transaction gains of foreign currency in the income statement of $2.7 million in the year ended December 31, 2015, Sarbanes-Oxley preparation fees of $1.0 million in the year ended December 31, 2015, as well as non-recurring legal-related costs, capital taxes, asset retirement obligation accretion and other expense.

(2) Adjusted EBITDA margin is Adjusted EBITDA divided by PQ Holdings' sales plus its proportionate share of the Catalyst Joint Venture sales.

(3) Maintenance capital expenditures include spending on maintenance of business, cost savings initiatives and health, safety and environmental initiatives. Expansion capital expenditures include spending to drive organic sales growth. These capital expenditures represent PQ Holdings' "book" capital expenditures for which it has recorded, but not necessarily paid for the capital expenditures.

(4) Free cash flow is defined as Adjusted EBITDA less maintenance capital expenditures. Maintenance capital expenditures include spending on maintenance of business, cost savings initiatives and health, safety and environmental initiatives.

Eco Services Operations LLC

The following tables set forth certain summary historical condensed consolidated financial and other data of Eco as of and for the years ended December 31, 2014 and 2015. Eco's statements of operations and other financial data for the years ended December 31, 2014 and 2015 was derived from the audited consolidated financial statements of Eco included elsewhere in this offering memorandum. The summary historical consolidated financial data set forth below should be read in conjunction with "Presentation of Financial Information," "Use of Proceeds," "Capitalization," "Selected Consolidated Financial Data of Eco," "Management's Discussion and Analysis of Financial Condition and Results of Operations of Eco" and Eco's consolidated financial statements and the related notes thereto each of which is included elsewhere in this offering memorandum.

On December 1, 2014, substantially all of the assets of Solvay USA Inc.'s Eco Services business unit were acquired by Eco Services Operations LLC, an indirect subsidiary of funds controlled by CCMP. In connection with the 2014 Acquisition, the acquisition method of accounting was applied and the assets and liabilities of Eco were adjusted to fair value on December 1, 2014. As a result of the application of the acquisition method of accounting, Eco's financial statement presentations distinguish between a predecessor period prior to the 2014 Acquisition and a successor period subsequent to the 2014 Acquisition. The Successor applied acquisition accounting and its financial statements reflect a new basis of accounting that is based on the fair value of assets acquired and liabilities assumed as of December 1, 2014. The financial information for the year ended December 31, 2014 in the tables below is presented on a combined basis and is not in accordance with U.S. GAAP. The combined basis results were aggregated from the results of the Predecessor and Successor for the related periods. We believe that presentation on a combined basis is meaningful as it allows the financial data to be analyzed to comparable subsequent periods.

	Predecessor	Combined	Successor
	Fiscal Year Ended December 31,		
	2013	2014	2015
	(dollar amounts in thousands)		
Statements of operations:			
Net sales	$ 390,834	$ 397,362	$ 388,875
Cost of sales	(286,371)	(302,347)	(282,795)
Selling, general, and administrative expense.	(45,697)	(63,586)	(47,927)
Provision (credit) for environmental reserve	1,174	(213)	—
Operating profit	57,592	31,642	58,153
Other income	3,266	—	—
Interest expense, net	(122)	(8,556)	(44,348)
Income before income tax provision	60,736	23,086	13,805
Provision for income taxes	(21,445)	(14,602)	—
Net income	$ 39,291	$ 8,484	$ 13,805
Balance sheet data (at period end):			
Cash and cash equivalents	$ —	$ 22,627	$ 25,155
Net working capital (deficit)(1)	10,954	(16,173)	(9,138)
Total assets	742,046	1,025,094	1,011,520
Total liabilities	201,831	807,270	773,849
Total debt, including current portion	1,629	676,656	674,269
Statements of cash flow data:			
Net cash provided by (used in):			
Operating activities	$ 84,448	$ 55,763	$ 48,914
Investing activities	(41,703)	(921,199)	(42,690)
Financing activities	(42,745)	888,063	(3,696)
Selected supplemental data:			
Volume metrics (in kilo tons)			
Acid regeneration	1,245	1,261	1,371
Virgin acid	1,791	1,841	1,628
Treatment services	46	49	56
Alum	25	22	25
Total Volumes	3,107	3,173	3,080
Maintenance capital expenditures	$ 41,675	$ 35,582	$ 40,139
Adjusted EBITDA(2)	105,499	106,650	116,451
Free cash flow(3)	63,824	70,686	76,312

(1) Net working capital is defined as current assets minus current liabilities minus cash and cash equivalents.

(2) Eco presents EBITDA and Adjusted EBITDA as supplemental measures of its performance, EBITDA consists of net income (loss) before income tax expense, interest expense, net, depreciation and amortization, Adjusted EBITDA consists of EBITDA adjusted for certain corporate related cost adjustments, certain cash and non-cash, non-recurring or unusual items and include management's estimates of standalone cost and income. See "Non-GAAP Financial Measures."

The following table reconciles net income to EBITDA and Adjusted EBITDA for the periods presented:

	Predecessor	Combined	Successor
	Fiscal Year Ended December 31, 2013	Predecessor and Successor 2014	Fiscal Year Ended December 31, 2015
		(in thousands)	
Reconciliation of net income to Adjusted EBITDA			
Net income	$ 39,291	$ 8,484	$ 13,805
Provision for income taxes	21,445	14,602	—
Interest expense, net	122	8,556	44,348
Depreciation and amortization	43,495	45,413	35,369
EBITDA	104,353	77,055	93,522
Acquisition accounting adjustment(a)	—	3,511	—
Transaction-related costs(b)	—	15,506	4,241
Restructuring, integration and business optimization expense(c)	—	247	4,146
Equity-based and other non-cash compensation	681	535	2,256
Management advisory fees(d)	—	42	590
Abatement revenue(e)	(3,966)	(3,093)	—
Hammond bridge reimbursement(f)	(3,266)	—	—
Corporate allocations(g)	16,853	12,942	—
Estimated standalone costs(h)	(10,880)	(9,974)	—
Pro forma bonus adjustment(i)	—	3,400	—
Plant production—one time(j)	—	2,200	—
Transition services(k)	—	467	4,882
Customer rail car damage accrual(l)	(1,475)	—	—
Contract adjustments(m)	1,933	1,814	—
Pension expense(n)	—	—	2,903
Loss on disposal of fixed assets(o)	—	—	3,911
Other(p)	1,266	1,998	—
Adjusted EBITDA	$105,499	$106,650	$116,451

(a) Represents the amortization of the inventory step-up associated with acquisition accounting related to the 2014 Acquisition.

(b) Relates to 2014 Acquisition costs and other transaction-related costs.

(c) Relates to non-recurring retention and severance costs associated with consolidation, relocation or integration subsequent to the 2014 Acquisition.

(d) Reflects management sponsor fees from Eco's existing consulting agreement. See "Certain Relationships and Related Party Transactions—Consulting Agreements with CCMP and INEOS."

(e) In prior years, Eco installed scrubbers at various plants due to regulatory requirements. Costs related to these scrubbers were being billed and paid by customers as temporary/non-recurring cash flows. Abatement revenue relates to annual amortization of these capital noncash refunds over the contract period. Annual amortization relates to revenue recognition of deferred revenue amounts previously accrued when the cash was received from customers.

(f) Represents non-recurring income associated with the reimbursement of costs of relocating plant utilities at Eco's Hammond, Indiana plant following an eminent domain requisitioning of land by the Indiana state government.

(g) Represents the amount allocated to Eco from Solvay and includes general expense allocations which do not reflect the level of expenditures required to operate the business on a standalone basis following the 2014 Acquisition from Solvay. Eco determined that these costs should be eliminated and replaced with estimated standalone costs as provided in footnote (h) below.

(h) Represents Eco's estimate of expenses needed to operate the business on a standalone basis following the 2014 Acquisition, including costs relating to incremental headcount, information technology related costs, legal costs and insurance costs, and replace the corporate cost allocations.

(i) Represents incremental bonus expense paid to former Solvay employees prior to the completion of the 2014 Acquisition.

(j) Represents one-time costs related to the unanticipated plant outage at one of Eco's west coast facilities in November 2014.

(k) Represents costs under a transition services agreement with Solvay which provides certain transition services to Eco by Solvay following the 2014 Acquisition. The transition services agreement ended in 2015.

(l) Represents an accrual for potential rail car damages that was reversed entirely in 2013 as it was no longer required.

(m) The contract adjustments are related to the following: (i) Eco shares its Baton Rouge, Louisiana plant with Solvay's Aroma operations and Eco has historically provided services, such as waste treatment, supply of sulfuric acid, shared security and logistics under an intercompany agreement; and (ii) Eco also supplies acid to Solvay's precipitated Silica manufacturing operations in Chicago Heights, Illinois. These adjustments are based on Eco's estimate of incremental revenue to the business that would have been realized had the intercompany agreements historically been on third-party terms as reflected in the new agreements entered into between Eco and Solvay in connection with the 2014 Acquisition.

(n) Relates to non-cash defined benefit pension cost for the year ended December 31, 2015.

(o) Represents the non-cash loss for the disposal of property, plant and equipment for the year ended December 31, 2015.

(p) Relates to various other non-recurring adjustments, including among other things, expenses related to changes in estimates for identified environmental liabilities, non-recurring legal costs allocated to Eco by Solvay associated with an employee matter, removal of information technology and research and development charges from Solvay that did not continue after the 2014 Acquisition, offset by insurance proceeds associated with flooding at our Baton Rouge, LA plant in 2013, and fringe benefit refunds received related to prior periods.

(3) Free cash flow is defined as Adjusted EBITDA less maintenance capital expenditures. Maintenance capital expenditures include spending on maintenance of business, cost savings initiatives and health, safety and environmental initiatives.

RISK FACTORS

This offering of Notes involves a high degree of risk. You should carefully consider the risks and uncertainties described below and other information included in this offering memorandum before purchasing the Notes offered hereby. If any of the events described below occur, our business, financial condition, operating results and prospects could be materially adversely affected, which in turn could adversely affect the trading price of the Notes and our ability to service and repay the Notes.

Risks Related to Our Combined Business

As a global business, we are exposed to local business risks in different countries, which could have a material adverse effect on our financial condition, results of operations and cash flows.

We have significant operations in many countries, including manufacturing sites, research and development ("R&D") facilities and sales personnel and customer support operations. Currently, we operate 68 manufacturing facilities across six continents. For the year ended December 31, 2015, our foreign subsidiaries accounted for 39% of our sales on a pro forma combined basis. Our operations are affected directly and indirectly by global regulatory, economic and political conditions, including:

- new and different legal and regulatory requirements in local jurisdictions;
- export duties or import quotas;
- domestic and foreign customs and tariffs or other trade barriers;
- potential difficulties in staffing and labor disputes;
- managing and obtaining support and distribution for local operations;
- increased costs of, and availability of, raw materials, transportation or shipping;
- credit risk and financial condition of local customers and distributors;
- potential difficulties in protecting intellectual property rights;
- risk of nationalization of private enterprises by foreign governments;
- potential imposition of restrictions on investments;
- the imposition of withholding taxes or other taxes or royalties on our income, or the adoption of other restrictions on foreign trade or investment, including currency exchange controls;
- capital controls;
- potential difficulties in obtaining and enforcing legal judgments in jurisdictions outside the United States;
- potential difficulties in obtaining and enforcing relief in the United States against parties located outside the United States;
- difficulties in enforcing agreements and collecting receivables;
- risks relating to environmental, health and safety matters; and
- local political, economic and social conditions, including the possibility of hyperinflationary conditions and political instability in certain countries.

In addition, our facilities may be targets of terrorist activities that could result in full or partial disruption of the activities of such facilities. See "—The occurrence or threat of extraordinary events, including natural disasters and domestic and international terrorist attacks, may disrupt our operations and decrease demand for our products."

We are affected by general economic conditions and an economic downturn could adversely affect our operations and financial results.

We sell performance chemicals that are used in manufacturing processes and as components of or ingredients in other products and, as a result, our sales are correlated with and affected by fluctuations in the level of industrial production and manufacturing output and general economic activity. Producers of performance chemicals, in particular, are likely to reduce their output in periods of significant contraction in industrial and consumer demand, while demand for the products we distribute often depends on trends in demand in the end-uses our customers serve. Our profit margins, as well as overall demand for our products and services, could decline as a result of a large number of factors outside our control, including economic recessions, changes in industrial production processes or consumer preferences, changes in laws and regulations affecting the chemicals industry and the manner in which they are enforced, inflation, fluctuations in interest and currency exchange rates and changes in the fiscal or monetary policies of governments in the regions in which we operate.

General economic conditions and macroeconomic trends, as well as the creditworthiness of our customers, could affect overall demand for products. Any overall decline in the demand for our products could significantly reduce our sales and profitability. If the creditworthiness of our customers declines, we would face increased credit risk. In addition, volatility and disruption in financial markets could adversely affect our sales and results of operations by limiting our customers' ability to obtain financing necessary to maintain or expand their own operations.

Exchange rate fluctuations could adversely affect our results of operations and cash flows.

We incur currency transaction risk whenever we or one of our subsidiaries enter into either a purchase or a sales transaction using a currency other than the local currency of the transacting entity. It is possible that volatility in currency exchange rates will have a material adverse effect on our financial condition or results of operations and cash flows. In the past, we have experienced economic loss and a negative impact on earnings as a result of foreign currency exchange rate fluctuations. Any future fluctuations may have a similar or greater impact on our business since we expect that the amount of our sales denominated in non-dollar currencies may increase in future periods. See "Management's Discussion and Analysis of Financial Condition and Results of Operations of PQ Holdings—Quantitative and Qualitative Disclosures About Market Risk."

As a result of our international operations, for the year ended December 31, 2015, we generated 39% of our sales on a pro forma combined basis and incurred a significant portion of our expenses in currencies other than U.S. dollars. To the extent we are unable to match sales made in foreign currencies with costs paid in the same currency, exchange rate fluctuations could have a negative impact on our financial condition, results of operations or cash flows. Additionally, because our consolidated financial results are reported in dollars, if we generate sales or earnings in other currencies, the translation of those results into dollars can result in a significant increase or decrease in the amount of those sales or earnings. In addition, our debt service requirements are primarily in U.S. dollars even though a significant percentage of our cash flow is generated in foreign currencies. The main currencies to which we are exposed, besides the U.S. dollar, are the Euro, the British pound, the Canadian dollar, the Mexican peso, the Brazilian real, the Australian dollar and the Japanese yen. The exchange rates between these currencies and the U.S. dollar have fluctuated significantly in recent years and may continue to do so in the future. In many cases, we sell exclusively in those jurisdictions and do not have the ability to mitigate our exposure to currency fluctuations through external means. In addition, currency fluctuations may affect the comparability of our results of operations and cash flows between financial periods.

Our international operations require us to comply with anti-corruption laws, trade and export controls and regulations of the U.S. government and various international jurisdictions in which we do business.

Doing business on a worldwide basis requires us and our subsidiaries to comply with the laws and regulations of the U.S. government and various international jurisdictions, and our failure to successfully comply with these rules and regulations may expose us to liabilities. These laws and regulations apply to companies, individual directors, officers, employees and agents, and may restrict our operations, trade practices, investment decisions and partnering activities. In particular, our international operations are subject to U.S. and foreign anti-corruption laws and regulations, such as the Foreign Corrupt Practices Act ("FCPA"), and the U.K. Bribery Act ("UKBA"). The FCPA prohibits us from providing anything of value to foreign officials for the purposes of influencing official decisions or obtaining or retaining business or otherwise obtaining favorable treatment, and requires us to maintain adequate record-keeping and internal accounting practices to accurately reflect our transactions. As part of our business, we may deal with state-owned business enterprises, the employees and representatives of which may be considered foreign officials for purposes of the FCPA and UKBA. In addition, some of the international locations in which we operate lack a developed legal system and have elevated levels of corruption. As a result of the above activities, we are exposed to the risk of violating anti-corruption laws. In addition, we are subject to applicable export controls and economic sanctions laws and regulations imposed by the U.S. government and other countries. Changes in export controls or trade sanctions laws may restrict our business practices, including cessation of business activities in sanctioned countries or regions or with sanctioned entities or individuals, and may result in modifications to compliance programs. Violations of these legal requirements are punishable by criminal fines and imprisonment, civil penalties, disgorgement of profits, injunctions, debarment from government contracts, loss of export privileges as well as other remedial measures. We have established policies and procedures designed to assist us and our personnel in complying with applicable U.S. and international laws and regulations. These policies and procedures are codified in our Code of Conduct and other various policies. However, there can be no assurance that our policies and procedures will effectively prevent us from violating these regulations in every transaction in which we may engage, and such a violation could subject us to governmental investigations and adversely affect our reputation, business, financial condition and results of operations.

Alternative technology or other changes in our customers' products may reduce or eliminate the need for our specialty chemicals, catalysts and engineered glass products.

Changes in our customers' products or processes may enable our customers to reduce consumption of the specialty chemicals, catalysts and engineered glass products that we produce, or make our specialty chemicals, catalysts and engineered glass products unnecessary. Our customers may also pursue alternative technology that could eliminate the need for certain of our specialty chemicals, catalysts and engineered glass products. For example, over the last five years, customers in the detergent industry have significantly reduced their usage of zeolites. As a result, our sales of zeolite have declined from 16% of PQ's sales in the year ended December 31, 2009 to 8% of PQ's sales for the year ended December 31, 2015. The potential development and implementation of new technology could seriously impair our ability to profitably market some of our products if we are unable to respond appropriately to such new developments. If we do not compete successfully, our business, financial condition and results of operations could be adversely affected.

Our new product development and R&D efforts may not succeed and our competitors may develop more effective or successful products.

The specialty chemicals, catalysts and engineered glass products industries are subject to periodic technological changes and ongoing product improvements. In order to maintain our margins and remain competitive, we must successfully develop, manufacture and market new or improved products. As a result, we must commit substantial resources each year to new product development and R&D. Ongoing investments in new product development and R&D for future products could result in higher costs without a proportional increase in revenues. Additionally, for any new product program, there is a risk of technical or market failure in which case we may not be able to develop the new commercial products needed to maintain our competitive position or we may need to commit additional resources to new product development programs. Moreover, new products may have lower margins than the products they replace.

We also expect competition to increase as our competitors develop and introduce new and enhanced products. As new products are introduced, our products may become obsolete or competitors' products may be marketed more effectively than our products. If we fail to develop new products, maintain or improve our margins with our new products or keep pace with technological developments, our business, financial condition, results of operations and cash flows will suffer. In addition, there can be no assurance that new products will successfully attract end-users.

If we are unable to pass on increases in raw material prices, including natural gas, or to retain or replace our key suppliers, our results of operations and cash flows may be negatively affected.

To produce chemicals and engineered glass products, we purchase significant amounts of raw materials, such as sodium carbonate, or soda ash, cullet, industrial sand, aluminum trihydrate, or ATH, sodium hydroxide (commonly known as caustic soda) and sulfur (including hydrogen sulfite), and purchase significant amounts of natural gas to supply the energy required in our production process. The cost of these raw materials, in the aggregate, represents a substantial portion of our operating expenses. Our results of operations have been and could in the future be significantly affected by increases in these costs. In addition, if any of the raw materials that we use become unavailable within the geographic area from which they are now sourced, then we may not be able to obtain suitable and cost-effective substitutes. Any interruption of supply or any price increase of raw materials could adversely affect our profitability.

We purchase certain of our North American soda ash requirements through long-term supply contracts and have historically been able to mitigate exposure to increases in pricing. As these contracts expire, we cannot provide assurance that we will be able to renegotiate or enter into new supply contracts that will offer protection from pricing and other fluctuations or be on terms that are satisfactory to us. Other than with natural gas, we typically do not enter into any long-term forward contracts to hedge raw material price risks that we face. In the event of future price increases in soda ash or any of the other raw materials necessary to produce our basic chemicals, we may not be able to match raw material price increases with corresponding product price increases. Although in the past we have entered into long-term supply contracts for certain of our raw materials, we cannot provide assurance that in the future we will enter into such contracts or that any such contracts will be on favorable terms or will adequately protect us against increases in the costs of raw materials.

While we attempt to match raw material price increases with corresponding product price increases, our ability to pass on increases in the cost of raw materials to our customers is, to a large extent, dependent upon our contractual arrangements and market conditions. Additionally, changes in the price or availability of raw materials could disrupt our operations and adversely affect our financial results. There may be periods of time during which we are not able to recover increases in the cost of raw materials due to our contractual arrangements or to weakness in demand for, or oversupply of, our products. Specifically, timing differences in pricing between raw material prices, which may change daily, and product prices, which in many cases are adjusted only quarterly or less often, sometimes with an additional lag in effective dates for increases, have had and may continue to have a negative effect on profitability. Even in periods during which raw material prices decline, we may suffer decreasing profits if raw material price reductions occur at a slower rate than decreases in the selling prices of our products. In addition, when raw material costs decrease, customers may seek relief in the form of lower sales prices. Furthermore, some of our customers in our Performance Chemicals business may take advantage of fluctuating prices by building inventories when they expect product prices to increase and reducing inventories when they expect product prices to decrease. Further, volatility in costs and pricing can result in commercial disputes with customers and suppliers with respect to interpretations of complex contractual arrangements. Significant adverse resolution of any such disputes could also reduce our profitability.

We also obtain a significant portion of our raw materials from certain key suppliers. If any of these suppliers is unable to meet its obligations under current supply agreements, we may be forced to pay higher prices to obtain the necessary raw materials and we may not be able to increase prices for our finished products.

In addition, we purchase significant amounts of natural gas to supply the energy required in our production processes for our products. Historically, the cost of natural gas has fluctuated significantly, and our results of operations have been affected by these increases. We have attempted to mitigate our exposure to natural gas volatility by implementing a hedging program in the United States, and entering into forward purchases in the United States, Canada, Europe and other parts of the world; however, we cannot provide assurance that our hedging strategy will be successful. If energy prices rise, our profitability could be adversely affected.

We face substantial competition in the industries in which we operate.

Some of the industries in which we operate for the Performance Chemicals, Catalysts and Specialty Glass Materials businesses are highly competitive, and this competition could harm our business and our corresponding results of operations, cash flows and financial condition. Sales dynamics in Europe and certain Asia-Pacific regions are particularly competitive due to the number of regional competitors. In the Catalysts business, we compete against large international producers as well. We believe that the most significant competitive factors for these products are quality, know-how and selling price. We could be subject to adverse results caused by our competitors' pricing decisions. In addition, current and future consolidation among our competitors and customers may cause us to lose supply share as well as put downward pressure on pricing. In addition, some of our competitors may have greater financial, technical and marketing resources than we do and/or may have less debt than we do. As a result, those competitors may be better able to withstand a change in conditions within the industries in which we compete and throughout the economy as a whole. As the demand for our products expands, we expect that existing competitors may commit more resources to the end-uses and geographies in which we participate. We may not be able to compete effectively in these various areas in the future and our competitive position and results of operations may suffer as a result.

In the Performance Chemicals business, our competitors range from large international companies, such as OxyChem and W.R. Grace, to a large number of smaller regional companies of varying sizes. In the Catalysts business, our competitors include Clariant, Tosoh and W.R. Grace. In the Specialty Glass Materials business, our competitors include Sovitec and Swarco, among others.

For the Eco business, we compete with multiple producers of U.S. sulfuric acid regeneration products and virgin sulfuric acid products. We believe that the most significant competitive factors in the industry are price, product quality and services. Some of our competitors may be able to drive down prices for our products because their costs are lower than ours. In addition, some of our competitors' financial, technological and other resources may be greater than ours and such competitors may be better able to withstand changes in conditions in the industry. Our competitors may be able to respond more quickly than we can to new or emerging technologies and changes in customer requirements. Further, consolidation of our competitors may make it more difficult for us to compete with them. The occurrence of any of these events could have a material adverse effect on our sulfuric acid business.

Our Eco business relies on a small number of customers for a significant portion of its business. A loss of one or more customers could adversely impact our profitability.

Our Eco business generates a significant portion of its net sales from a small number of customers. Our top 10 sulfuric acid regeneration customers represented approximately 97% of our overall acid regeneration sales and our top 10 virgin acid customers represented approximately 80% of our virgin acid sales for 2015. While many of these customers are under long term contracts with us, we cannot provide assurance that we will maintain our relationship with any particular customer or continue to provide services to any specific customers at current levels. In addition, at several of our facilities we are connected to a customer by a pipeline. In 2015, approximately 32% of our regenerated sulfuric acid volumes were shipped by captive pipelines. A loss of any significant customer, including a pipeline customer, or a decrease in the provision of services to any such customer could, in the short term, adversely affect our business until alternative arrangements are secured. Any alternative arrangement to replace a loss of a pipeline customer would result in increased variable costs relating to shipping our product. In addition, any new customer agreement entered into by us may not have terms as favorable as those contained in current customer agreements and the failure to obtain such favorable terms could have a material adverse effect on our business, financial condition and results of operations. Additionally, refineries have undergone significant consolidation and additional consolidation is possible. Consolidation would increase our customers' leverage over their suppliers, including us and could cause downward pressure on prices, which may adversely affect our profitability.

Our multi-year customer contracts in our Eco business are subject to potential early termination and these contracts may not be renewed at the end of their respective terms.

Many of the customer contracts in our Eco business are multi-year agreements. Sulfuric acid regeneration customer contracts are typically on five to ten year terms. Our regeneration contracts with major refinery customers have contract termination notice periods of one to two years. Virgin sulfuric acid customer contracts are typically on one to five year terms, with larger customers favoring longer terms. Excluding contracts with automatic evergreen provisions, approximately 65% of 2015 sulfuric acid volumes were under contracts expiring at the end of 2018. While we have a strong re-contracting history, we cannot provide assurance that our existing contracts will not be subjected to early terminations or that our expiring contracts will be renewed at the end of their respective terms. If we receive a significant number of such contract terminations and experience non-renewals from key customers, our results of operations, financial condition and cash flows may be materially adversely affected.

Reductions in transportation safety spending or taxes earmarked for transportation safety spending could result in a decline in our sales.

Approximately 12% of our sales on a pro forma combined basis for the year ended December 31, 2015 were derived from transportation safety products. Sales of our Specialty Glass Materials products to the transportation safety end-uses are in part dependent upon federal, state, local and foreign government budgets. A decrease in or termination of governmental budgeting for new transportation safety programs or a significant decrease in the use of our materials in any new transportation safety projects could have an adverse effect on our business, financial condition, results of operations or cash flows by decreasing the profitability of our Specialty Glass Materials business.

Demand for some of our products is seasonal and we may experience prolonged depressed conditions for our products.

Our Specialty Glass Materials business, which accounted for 19% of our sales on a pro forma combined basis for the year ended December 31, 2015, typically experiences seasonal fluctuations in sales and profitability, with generally lower sales and profit in the first and fourth quarters of our fiscal year. This seasonality is due to the fact that highway striping projects typically occur during warmer weather months. Our Eco business, which accounted for 24% of our sales on a pro forma combined basis for the year ended December 31, 2015, also typically experiences seasonal fluctuations as a result of oil refineries experiencing higher demand for gasoline products in the summer months. As a result, our working capital requirements tend to be higher in the first and fourth quarter and, accordingly, can adversely affect our liquidity and cash flow. Sales in our Performance Chemicals and Catalysts businesses, which accounted for 57% of our sales on a pro forma combined basis for the year ended December 31, 2015, reflect the general cyclical patterns of the industries for the end-users of our chemical and catalysts products.

Sales of certain of our products, including a substantial portion of our Performance Chemicals and Catalysts businesses, are dependent upon the continued demand from a number of key customers. In general, downturns in economic conditions can cause fluctuations in demand for our and our customers' products, product prices, volumes and margins.

If we lose certain key personnel or are unable to hire additional qualified personnel, our business could be adversely affected because we may not be able to execute our business strategy.

Our success depends, in part, upon the continued services of our highly skilled personnel involved in management, research, production and distribution and, in particular, upon the efforts and abilities of our key officers. Although we believe that we are currently adequately staffed in key positions, we cannot provide assurance that we will be able to retain such personnel on acceptable terms or at all. If we lose the service of any of our key officers, we may not be able to hire replacements with the same level of industry experience and knowledge necessary to execute our business strategy, which in turn could have a material adverse effect on our business, financial condition, results of operations or cash flows.

Our expansion projects may result in significant expenditures before generating any revenues, or may never generate revenues, which may materially and adversely affect our ability to implement our business strategy.

We have made and continue to make significant investments in each of our businesses. These projects require us to commit significant capital to, among other things, implement engineering plans and obtain the necessary permits, before we generate revenues related to the investments in these businesses. The projects may take longer to complete and require additional unanticipated expenditures, and may never generate profits. If we fail to recover our investment or the projects are never profitable, this may materially and adversely affect our ability to implement our business strategy.

We may be liable for damages based on product liability claims brought against us and customers in our end-use products or for costs associated with recalls of our or our customers' products.

The sale of our products involves the risk of product liability claims or voluntary or government-ordered product recalls. Certain of our products provide critical performance functions to our customers' end-products. Some of our products are used in and around other chemical manufacturing facilities, highways, airports and other locations where personal injury or property damage may occur. Some of our products are used in beverage, personal care and medicinal applications. There can be no assurance that our products will not be the subject of product liability claims or suits or that we or our customers will not be subject to a voluntary or government-ordered product recall. If one of our or our customers' products is the subject of a recall, we may incur significant costs and reputational damage and suffer loss of customers as a result. In addition, if a person brings a product liability claim or suit against one of our customers, this customer may attempt to seek contribution from us. A product recall or successful product liability claim or series of claims against us in excess of our insurance coverage for which we are not otherwise indemnified could have an adverse effect on our business, financial condition, results of operations or cash flows.

Certain of our businesses are subject to government regulation, and could be adversely affected by future governmental regulation.

In order to obtain regulatory approval of certain of our new products, we must, among other things, demonstrate to the relevant authority that the product is safe and effective for its intended uses and that we are capable of manufacturing the product in accordance with current regulations. The process of seeking approvals can be costly, time-consuming and subject to unanticipated and significant delays. Any delay in obtaining, or any failure to obtain or maintain, these approvals would adversely affect our ability to introduce new products and to generate sales from those products, and could have an adverse effect on our business, financial condition, results of operations or cash flows.

Our products, including the raw materials we handle, are subject to rigorous chemical registration and industrial hygiene regulations and investigation. There is a risk that a key raw material, chemical or substance or one of the end products of which our products are a part may be recharacterized as having a toxicological or health-related impact on the environment or on our customers or employees. Industrial hygiene regulations are continually strengthened and if such recharacterization occurred, the relevant raw material, chemical or product may be banned or we may incur increased costs in order to comply with new requirements. Changes in industrial hygiene regulations also affect the marketability of certain of our products, and future regulatory changes may have a material adverse effect on our business.

New laws and regulations, and changes in existing laws and regulations, may be introduced in the future that could result in additional compliance costs, seizures, confiscation, recall or monetary fines, any of which could prevent or inhibit the development, distribution and sale of our products. For example, as discussed in more detail in "Business—Environmental Regulation" and "Business—Chemical Product Regulation," we may be materially impacted by regulatory initiatives worldwide with respect to chemical product safety such as the European Union regulation "Registration, Evaluation, Authorisation and Restriction of Chemical Substances" ("REACH"), or similar regulations being enacted in other countries (e.g., China REACH; Korea REACH). If we fail to comply with applicable laws and regulations, we may be subject to civil remedies, including fines, injunctions, recalls or seizures, any of which could have an adverse effect on our business, financial condition and results of operations. In addition, we benefit from certain trade protections, including antidumping protection. If we were to lose these protections, our results of operations could be adversely affected.

We are subject to extensive environmental, health and safety regulations and face various risks associated with potential non-compliance or releases of hazardous materials.

Like other chemical companies, our operations and properties are subject to extensive and stringent federal, state, local and foreign environmental laws and regulations, including those concerning, among other things, emissions to the air, discharges to land, surface, subsurface strata and water and the generation, handling, storage, transportation, treatment, disposal and remediation of hazardous materials. We also are subject to other federal, state, local and foreign laws and regulations regarding chemical and product safety as well as employee health and safety matters, including process safety requirements. These laws and regulations may become more stringent over time and the failure to comply with such laws and regulations can result in significant fines or penalties. For instance, in November 2015, the Pennsylvania Department of Environmental Protection ("PADEP") issued a $1.7 million fine associated with alleged air emissions violations related to excessive short term emissions of carbon monoxide and nitrogen oxides, and excessive long term 12-month rolling sums of the two pollutants, at our Chester, PA, site. We have appealed alleged violation and associated fine. We also remain subject to a 2007 Consent Decree that resolves certain alleged Clean Air Act violations at our seven Eco operating locations involving New Source Review ("NSR"), Prevention of Significant Deterioration ("PSD"), and New Source Performance Standard ("NSPS") obligations under the federal rules for the pollutants sulfur dioxide and sulfuric acid mist. The Consent Decree required Solvay (the owner at the time) to pay a $2 million penalty and spend approximately $34 million on air pollution controls at our facilities, the majority of which was received from customers in contractual arrangements. Work under the Consent Decree has proceeded since 2007, and, we believe that all of the significant capital improvements related to the Consent Decree have been completed. One of our operating locations has been released from the scope of the Consent Decree and we are seeking release of the other locations covered by the Consent Decree. Finally, these laws and regulations require us to obtain environmental registrations, licenses, permits, and other approvals in order to operate and can require us to install expensive pollution control equipment at our facilities or incur other capital expenditures aimed at achieving or maintaining compliance with such laws and regulations. Due to the Business Combination, many of the business' permits need to be transferred or reissued to us. Depending on the permit, this requires either pre or post-closing notification to regulatory authorities or regulatory authority consent. The loss or delay of a significant permit or license could have a material effect on our operations and net sales.

Our operations are subject to various hazards incidental to the production, use, handling, processing, storage and transportation of significant quantities of hazardous materials. Under certain environmental laws, liability for the cleanup of contaminated sites can be imposed retroactively and on a joint and several basis. We could be held responsible for all cleanup costs at a site, whether currently or formerly owned or operated, and regardless of fault, knowledge, timing or cause of the contamination. In addition, we may face liability for personal injury, property damage, and natural resource damage resulting from environmental conditions attributable to us. As such, a product spill or emission at one of our facilities or during transportation could have adverse consequences on the environment and surrounding community and could result in significant liabilities with respect to investigation and remediation. Our sites have an extended history of industrial use, and soil and groundwater contamination exists at some of our sites. Under certain environmental laws, liability for the cleanup of contaminated sites can be imposed retroactively and on a joint and several basis. As of December 31, 2015, we have current remediation or monitoring obligations at our sites in Rahway, NJ; Dominguez, CA; Martinez, CA;

Hammond, IN; Portland, OR and Rio Claro, Brazil, as well as a formerly owned site in Tacoma, WA. The Martinez facility also is involved in a long-term project to remediate and restore the Peyton Slough, an adjacent surface water estuary that was contaminated as a result of historical copper smelting activities on the Martinez site prior to the acquisition of the property. This project is in its final stages. Our reserves associated with environmental matters were $9.9 million as of December 31, 2015. There also is a potential risk that our long-term industrial use of these sites may have resulted in yet to be discovered contamination, which we could be required to investigate and, if warranted, remediate, as liability potentially could be imposed without regard to whether we knew of, or caused, the release of such hazardous substances and, in some cases, liability may be joint and several. Discovery of additional or unknown conditions at our facilities could have an adverse impact on our business by substantially increasing our capital expenditures, compliance or investigation, and remediation costs. Further, we may be jointly and severally liable for contamination at third party sites where we or our predecessors in interest have sent waste for treatment or disposal even if in doing so we complied with applicable laws. Such environmental liabilities attached to our properties or for properties which we are otherwise responsible could have a material adverse effect on our results of operations or financial condition.

Existing and proposed regulations to address climate change by limiting greenhouse gas emissions may cause us to incur significant additional operating and capital expenses.

Certain of our operations result in emissions of greenhouse gases (“GHGs”), such as carbon dioxide and methane. Growing concern about the sources and impacts of global climate change has led to a number of domestic and foreign legislative and administrative measures, both proposed and enacted, to monitor, regulate and limit carbon dioxide and other GHG emissions. In the EU, our emissions are regulated under the EU Emissions Trading System, or EU ETS, an EU-wide trading scheme for industrial GHG emissions. The EU ETS is anticipated to become progressively more stringent over time, including by reducing the number of allowances to emit GHGs that EU member states will allocate without charge to industrial facilities. In the United States, the Environmental Protection Agency (the “EPA”) has promulgated federal GHG regulations under the Clean Air Act affecting certain sources. The EPA has issued mandatory GHG reporting requirements, under which our Dominguez, CA and Baton Rouge, LA facilities currently report. Moreover, California has enacted the Global Warming Solutions Act of 2006, or Assembly Bill 32, a law that establishes a comprehensive program to reduce GHG emissions from all sources throughout the state and contains reporting requirements under which our Dominguez, CA and Martinez, CA facilities report. Our Dominguez facility participates in the emissions trading market established under Assembly Bill 32. Although we believe it is likely that GHG emissions will continue to be regulated in the United States and other countries (in addition to the EU) in the future, we cannot yet predict the form such regulation will take (such as a cap-and-trade program, technology mandate, emissions tax or other regulatory mechanism) or, consequently, estimate any costs that we may be required to incur in respect of such requirements, for example, to install emissions control equipment, purchase emissions allowances, administer and manage our GHG emissions program, or address other regulatory obligations. Such requirements also could adversely affect our energy supply, or the costs (and types) of raw materials we use for fuel. Regulations controlling or limiting GHG emissions could have a material adverse impact on our business, financial condition or results of operations, including by reducing demand for our products.

The insurance that we maintain may not fully cover all potential exposures.

We maintain property, business interruption and casualty insurance but such insurance may not cover all risks associated with the operation of our business or our manufacturing process and the related use, storage and transportation of raw materials, products and wastes in or from our manufacturing sites or our distribution centers. While we have purchased what we deem to be adequate limits of coverage and broadly worded policies, our coverage is subject to limitations, including higher self-insured retentions or deductibles and maximum limits and liabilities covered. Notwithstanding diligent efforts to successfully procure specialty coverage for environmental liability and remediation, we may incur losses beyond the limits or outside the terms of coverage of our insurance policies, including liabilities for environmental remediation. In addition, from time to time, various types of insurance for companies in the specialty chemicals, catalysts and engineered glass products industry have not been available on commercially acceptable terms or, in some cases, at all. We are potentially at additional risk if one or more of our insurance carriers fail. Accordingly, we may not be able to obtain replacement insurance on acceptable terms or insurance may not provide adequate protection against potential liabilities in the future. Additionally, severe disruptions in the domestic and global financial markets could adversely impact the ratings and survival of some insurers. Future downgrades in the ratings of enough insurers could adversely impact both the availability of appropriate insurance coverage and its cost. In the future, we may not be able to obtain coverage at current levels, if at all, and our premiums may increase significantly on coverage that we maintain.

We are subject to the risk of loss resulting from non-payment or non-performance by our customers.

Our credit procedures and policies may not be adequate to minimize or mitigate customer credit risk. Our customers may experience financial difficulties, including bankruptcies, restructurings and liquidations. These and other financial problems that may be experienced by our customers, as well as potential financial weakness in our industry, may increase our risk in extending trade credit to customers. A significant adverse change in a customer relationship or in a customer's financial position could cause us to limit or discontinue business with that customer, require us to assume more credit risk relating to that customer's receivables or limit our ability to collect accounts receivable from that customer, all of which could have a material adverse effect on our business, results of operations, financial condition and liquidity.

We could be subject to damages based on claims brought against us by our customers or lose customers as a result of the failure of our products to meet certain quality specifications.

Our products provide important performance attributes to our customers' products. If a product fails to perform in a manner consistent with quality specifications or has a shorter useful life than guaranteed, a customer could seek replacement of the product or damages for costs incurred as a result of the product failing to perform as guaranteed. A successful claim or series of claims against us could cause reputational harm and have a material adverse effect on our financial condition and results of operations and could result in a loss of one or more customers.

We may engage in strategic acquisitions or dispositions of certain assets and/or businesses that could affect our business, results of operations, financial condition and liquidity.

We may selectively pursue complementary acquisitions and joint ventures, each of which inherently involves a number of risks and presents financial, managerial and operational challenges, including:

- potential disruption of our ongoing business and distraction of management;
- difficulty with integration of personnel and financial and other systems;
- hiring additional management and other critical personnel; and
- increasing the scope, geographic diversity and complexity of our operations.

In addition, we may encounter unforeseen obstacles or costs in the integration of acquired businesses. Also, the presence of one or more material liabilities of an acquired company that are unknown to us at the time of acquisition may have a material adverse effect on our business. Our acquisition and joint venture strategy may not be successfully received by customers, and we may not realize any anticipated benefits from acquisitions or joint ventures.

We may also opportunistically pursue dispositions of certain assets and/or businesses, which may involve material amounts of assets or lines of business, and adversely affect our results of operations, financial condition and liquidity. If any such dispositions were to occur, under the terms of the credit agreement governing our New Senior Secured Credit Facilities and the indentures governing the 2022 Notes and the Notes offered hereby, we may be required to apply the proceeds of the sale to repay any borrowings under our New Senior Secured Credit Facilities, the 2022 Notes or the Notes offered hereby.

Our joint ventures may not operate according to their business plans if our partners fail to fulfill their obligations, or differences in views among our joint venture participants may result in delayed decisions or failures to agree on major issues, which may adversely affect our results of operations and may force us to dedicate additional resources to these joint ventures.

We currently participate in a number of joint ventures and may enter into additional joint ventures in the future. The nature of a joint venture requires us to share control with unaffiliated third parties. If our joint venture partners do not fulfill their obligations, the affected joint venture may not be able to operate according to its business plan. In that case, our results of operations may be adversely affected and we may be required to increase the level of our commitment to the joint venture. Also, differences in views among joint venture participants may result in delayed decisions or failures to agree on major issues. If these differences cause the joint ventures to deviate from their business plans, our results of operations could be adversely affected. For example, we do not control any of the joint ventures within the Catalyst joint ventures and cannot unilaterally undertake strategies, plans, goals and operations of the Catalyst joint ventures or determine when they will make cash distributions to us even though our proportionate interest in the Catalyst joint ventures' results of operations are reflected in our non-GAAP financial measures. Differences in views among joint venture participants and our inability to unilaterally implement sales and productions strategies or determine cash distributions from our joint ventures may significantly impact short-term and longer term financial results and financial condition.

Our failure to protect our intellectual property rights could adversely affect our future performance and growth.

Protection of our proprietary processes, methods, compounds and other technologies is important to our business. We depend upon our ability to develop and protect our intellectual property rights to distinguish our products from those of our competitors. Failure to protect our existing intellectual property rights may result in the loss of valuable technologies or other intellectual property or having to pay other companies for infringing on their intellectual property rights. We rely on a combination of patent, trade secret, trademark and copyright law as well as judicial enforcement to protect such technologies and trademarks. In addition, the laws of many foreign countries do not protect our intellectual property rights to the same extent as the laws of the United States. As of December 31, 2015, we owned over 50 patented inventions, with approximately 280 patents issued in countries around the world and approximately 145 patent applications pending worldwide covering more than 15 additional inventions. Some of these patents are licensed to others. In addition, we have acquired the rights under patents and inventions of others through licenses.

We also rely upon unpatented proprietary know-how and continuing technological innovation and other trade secrets to develop and maintain our competitive position, which may not provide us with complete protection against competitors. While it is our policy to enter into confidentiality agreements with our employees and third parties to protect our intellectual property rights, there can be no assurances that:

- our confidentiality agreements will not be breached,
- they will provide meaningful protection for our trade secrets or proprietary know-how, or
- adequate remedies will be available in the event of an unauthorized use or disclosure of these trade secrets and know-how.

In addition, there can be no assurances that others will not obtain knowledge of these trade secrets through independent development or other access by legal means.

Measures taken by us to protect these assets and rights may not provide meaningful protection for our trade secrets or proprietary manufacturing expertise and adequate remedies may not be available in the event of an unauthorized use or disclosure of our trade secrets or manufacturing expertise. In addition, our patents and other intellectual property rights may be challenged, invalidated, circumvented or rendered unenforceable. Furthermore, we cannot provide assurance that any pending patent or trademark application filed by us will result in an issued patent or trademark or, if patents are issued to us, that those patents will provide meaningful protection against competitors or against competitive technologies. The failure of our patents or other measures to protect our processes, apparatuses, technology, trade secrets and proprietary manufacturing expertise, methods and compounds or trademarks could have an adverse effect on our business, financial condition, results of operations and cash flows. See "Business—Intellectual Property."

Our products may infringe the intellectual property rights of others, which may cause us to incur unexpected costs or prevent us from selling our products.

Although it is our policy and intention not to infringe valid patents, in the future our processes, apparatuses, technology, proprietary manufacturing expertise, methods, compounds and products may infringe on issued patents or infringe or misappropriate other intellectual property rights of others. For example, our products or our technology may be subject to filed patent applications by third parties that cover our products or technology. If patents are subsequently issued on these applications or if patents that cover our products or technology are already in existence, we may be liable for infringement. We may also be subject to legal proceedings and claims in the ordinary course of our business, including claims of alleged infringement of the patents or trademarks or infringement or misappropriation of other intellectual property rights of third parties by us or our licensees in connection with their use of our products. Intellectual property litigation is expensive and time-consuming, regardless of the merits of any claim, and could divert the attention of our management and technical personnel from operating our business. If we were to discover that our processes, apparatuses, technology, proprietary manufacturing expertise, methods, compounds, products or trademarks infringe the valid intellectual property rights of others, we might need to obtain licenses from these parties or substantially reengineer or rebrand our products in order to avoid infringement. We may not be able to obtain the necessary licenses on acceptable terms, or at all, or be able to reengineer our products successfully or at an acceptable cost. Moreover, if we are sued for infringement and lose the suit, we could be required to pay substantial damages and/or be enjoined from using or selling the infringing products or technology or using the infringing trademark. Any of the foregoing could cause us to incur significant costs and prevent us from selling our products, which could have an adverse effect on our business, financial condition, results of operations and cash flows. Even if we ultimately prevail, the existence of lawsuits could in certain cases prompt our customers to switch to alternative products.

Losses and damages in connection with information technology risks could adversely affect our operations.

Our operations materially depend on a complex, worldwide and highly available information technology infrastructure with integrated processes. The networks and data centers we use are subject to damage by material events such as major disruption to public infrastructure (in particular power outages, cyber or terrorist attacks, fires, etc.). Despite various disaster recovery plans, such an event could cause material disruptions in our operations.

The broad use of information technology systems has increased the risk of unauthorized access to confidential data (such as customer information, strategic projects, product formulas and other trade secrets) and the risk of destruction or manipulation of material data by employees or third parties. Although we have introduced many security measures (like firewalls and information technology security policies), we cannot ensure that these measures offer the appropriate level of security.

We may need to recognize impairment charges related to goodwill, identified intangible assets and fixed assets.

We are required to test goodwill and any other intangible asset with an indefinite life for possible impairment on the same date each year and on an interim basis if there are indicators of a possible impairment. We are also required to evaluate indefinite-lived intangible assets and fixed assets for impairment if there are indicators of a possible impairment.

There is significant judgment required in the analysis of a potential impairment of goodwill, identified intangible assets and fixed assets. If, as a result of a general economic slowdown, deterioration in one or more of the industries in which we operate or in our financial performance and/or future outlook, the estimated fair value of our long-lived assets decreases, we may determine that one or more of our long-lived assets is impaired. An impairment charge would be determined based on the estimated fair value of the assets and any such impairment charge could have a material adverse effect on our results of operations and financial position.

Our ability to utilize our net operating losses is uncertain.

As of December 31, 2015, PQ had $288 million of net operating losses for U.S. federal income tax purposes. Our ability to utilize these net operating losses to offset future income tax liabilities depends on our future financial performance and our future taxable income. In addition, our utilization of these net operating losses is currently limited under Section 382 of the Internal Revenue Code of 1986, as amended (the "Code"), impacting our ability to realize the benefits of these net operating losses. We do not expect the Business Combination, alone, to result in an additional limitation imposed by Section 382 of the Code. However, if any future ownership changes occurring within three years of the closing date of the Business Combination among stockholders owning directly or indirectly 5% or more of our stock, in addition to the Business Combination, were to result in an aggregate ownership change of more than 50% of our stock, then our utilization of these net operating losses and certain built-in losses would be subject to an additional limitation imposed by Section 382 of the Code.

The occurrence or threat of extraordinary events, including natural disasters and domestic and international terrorist attacks, may disrupt our operations and decrease demand for our products.

Natural disasters and other weather-related disruptions and domestic and international terrorist attacks would affect our ability to sell to our customers by impacting many of our customers and our suppliers of certain raw materials, which would have an adverse impact on volume and cost for some of our products. If tornadoes or other natural disasters or terrorist attacks occur in the future near our sites, they could negatively affect the results of operations in the affected regions, as well as have adverse impacts on the global economy. In particular, our sulfuric acid operations are predominantly located in the Gulf Coast, which is susceptible to hurricanes, and Northern California, which is susceptible to the risk of significant earthquakes. Extreme weather in these regions could impact our ability to operate our facilities on the Gulf and West Coasts. Furthermore, there is a risk that our customers, including refinery customers located on the Gulf and West Coasts, could be impacted by such events there by affecting demand for our products and services.

We depend on good relations with our workforce, and any significant disruptions could adversely affect our operations.

As of December 31, 2015, we had 2,983 employees on a pro forma combined basis. As of December 31, 2015 on a pro forma basis, approximately 40% of our employees were represented by a union or workers council. In addition, a large number of our employees are employed in countries in which employment laws provide greater bargaining or other rights to employees than the laws of the United States. Such employment rights require us to work collaboratively with the legal representatives of the employees to effect any changes to labor arrangements. For example, many of our employees in Europe are represented by workers councils that must approve any changes in conditions of employment, including salaries and benefits and staff changes, and may impede efforts to restructure our workforce. Although we believe that we have a good working relationship with our employees, a strike, work stoppage or slowdown by our employees or significant dispute with our employees could result in a significant disruption of our operations or higher ongoing labor costs.

We have unfunded and underfunded pension plan liabilities. We will require current and future operating cash flow to fund these shortfalls. We have no assurance that we will generate sufficient cash flow to satisfy these obligations.

We maintain defined benefit pension plans covering employees who meet age and service requirements. While some of our plans have been frozen, our net pension liability and cost is materially affected by the discount rate used to measure pension obligations, the longevity and actuarial profile of our workforce, the level of plan assets available to fund those obligations and the actual and expected long-term rate of return on plan assets. Significant changes in investment performance or a change in the portfolio mix of invested assets can result in corresponding increases and decreases in the valuation of plan assets, particularly equity securities, or in a change in the expected rate of return on plan assets. Assets available to fund the pension benefit obligation of the U.S. advance-funded pension plans at December 31, 2015 were approximately $271.3 million, or approximately $93.3 million less than the measured pension benefit obligation on a U.S. GAAP basis. In addition, any changes in the discount rate could result in a significant increase or decrease in the valuation of pension obligations, affecting the reported funded status of our pension plans as well as the net periodic pension cost in the following years. Similarly, changes in the expected return on plan assets can result in significant changes in the net periodic pension cost in the following years.

We also contribute to two multi-employer pension plans on behalf of certain of our employees in the U.S. pursuant to union agreements that generally provide defined benefits to employees covered by collective bargaining agreements. A total of approximately 20 employees currently participate in such multi-employer pension plans. Funding requirements for benefit obligations of multi-employer pension plans are subject to certain regulatory requirements, and we may be required to make cash contributions to one of these plans to satisfy certain underfunded benefit obligations. Absent an applicable exemption, a contributor to a U.S. multi-employer plan is liable upon its withdrawal from, or the termination of, a plan, for its proportionate share of the plan’s underfunding, if any.

We are subject to certain risks related to litigation filed by or against us, as well as administrative and regulatory proceedings, and adverse results may harm our business.

We cannot predict with certainty the cost of defense, the cost of prosecution or the ultimate outcome of litigation and other administrative and regulatory proceedings filed by or against us, including remedies or damage awards, and adverse results in any litigation and other administrative and regulatory proceedings may materially harm our business. Litigation and other administrative and regulatory proceedings may include, but are not limited to, actions relating to intellectual property, commercial arrangements, environmental, health and safety, joint venture agreements, labor and employment, domestic and foreign antitrust matters or other harms resulting from the actions of individuals or entities outside of our control. In the case of intellectual property litigation and proceedings, adverse outcomes could include the cancellation, invalidation or other loss of material intellectual property rights used in our business and injunctions prohibiting our use of business processes or technology that are subject to third-party patents or other third-party intellectual property rights. Litigation based on environmental matters or exposure to hazardous substances in the workplace or from our products could result in significant liability for us. Adverse outcomes could have a material adverse effect on our business. See “Business—Legal Proceedings.”

We may be subjected to asbestos premises liability and product liability claims.

Our Eco business is a defendant in several legal actions from contractors and others related to damages caused by the alleged exposure of the plaintiffs to asbestos containing building materials historically located at our plants or sites. We typically are not named as a single party defendant in these cases and the alleged exposures in cases filed against us tend to be for a shorter time period (e.g., several weeks or months of exposure while working at our sites out of a claimed total exposure that could total 30 years at other sites). We have a provision on the balance sheet in relation to these claims; however, we additional similar claims could be filed against us in the future.

In addition, we cannot assure you that as a result of past or future operations, there will not be claims of injury by employees or members of the public due to exposure, or alleged exposure, to such hazardous materials. Furthermore, we, along with our suppliers and customers also face the risk of present and future claims with respect to workplace exposure, workers' compensation and other related matters. It is not possible to definitively predict the actual amount of these liabilities or the timing thereof. A successful class action proceeding, or series of claims against us in respect of product liability, arising out of exposure to asbestos in excess of our insurance coverage, could have a material adverse effect on our business, financial condition and results of operations.

Risks Related to the Business Combination

Our efforts to combine PQ's business with Eco's business may not be successful.

The management of our combined company will be required to devote a significant amount of time and attention to the process of integrating the operations of PQ's business and the business of Eco, which may decrease the time it will have to serve existing customers, attract new customers and develop new services or strategies. If the integration of the two companies is not managed successfully by our management, it may result in interruptions in our business activities, a decrease in the quality of our services, a deterioration in our employee and customer relationships, increased costs of integration and harm to our reputation, all of which could have a material adverse effect on our business, financial condition and results of operations.

We may not realize the expected benefits of the Business Combination because of integration difficulties and other challenges.

The success of the Business Combination will depend, in part, on our ability to realize the anticipated synergies and cost savings from integrating the Eco business with PQ's existing businesses. The integration process will be complex, costly and time-consuming. The difficulties of integrating the Eco operations include, among others:

- failure to implement our business plan for the combined company;
- the diversion of management attention and resources;
- failure to retain customers or key suppliers;
- unanticipated issues in integrating personnel, information, communications and other systems;
- applicable laws and regulations in foreign jurisdictions;
- unanticipated changes in applicable laws and regulations;
- failure to retain key employees;
- operating, competitive and other risks inherent in PQ's business and Eco's business; and
- unanticipated issues, expenses and liabilities.

We may not accomplish the integration smoothly, successfully or within the anticipated cost range or timeframe. The diversion of our management's attention from our current operations to the integration effort and any difficulties encountered in combining operations could prevent us from realizing the full benefits anticipated to result from the Business Combination and could adversely affect our business.

We may be unable to realize anticipated cost savings or may incur additional and/or unexpected costs in order to realize them.

In connection with the Business Combination, we expect to realize cost savings following the consummation of the Business Combination, primarily relating to the overhead consolidation synergies, cost improvements, higher labor productivity maintenance and lower fixed freight costs. We may be unable to realize all of these cost savings within the expected timeframe or at all and we may incur additional and/or unexpected costs in order to realize them.

Eco has identified a material weakness in its internal control over financial reporting. Following the Business Combination, if we fail to maintain an effective system of internal control over financial reporting, we may not be able to accurately report our financial results in a timely manner, which may adversely affect investor confidence in our company.

We are not currently required to comply with the rules of the SEC implementing Section 404 of the Sarbanes-Oxley Act and therefore are not required to make a formal assessment of the effectiveness of our internal control over financial reporting for that purpose. As a private entity, we experienced management turnover and lack of resources following Eco's separation from Solvay which led to insufficient knowledge to effectively support account balances and carry out formal control policies and framework and certain human resource and payroll records were inherited from Solvay, where no formal processes for record keeping were in place due to the process of transitioning to PQ's human resource procedures and processes. These factors, along with adjustments identified in connection with the audit of our consolidated financial statements as of and for the year ended December 31, 2015, resulted in deficiencies that aggregated to a material weakness in Eco's internal control over financial reporting. These adjustments relate primarily to reversals of various accruals that were overstated as of December 31, 2015. A material weakness is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of Eco's financial statements will not be prevented, or detected and corrected on a timely basis.

We cannot be certain that any measures we undertake will successfully remediate the material weakness or that other material weaknesses and control deficiencies will not be discovered in the future. If our remediation efforts are not successful or other material weaknesses or control deficiencies occur in the future, we may be unable to report our financial results accurately on a timely basis, which could cause our reported financial results to be materially misstated.

Risks Related to Our Substantial Indebtedness

Our substantial level of indebtedness could materially adversely affect our ability to generate sufficient cash to fulfill our obligations under the Notes, our ability to react to changes in our business and our ability to incur additional indebtedness to fund future needs.

Upon the completion of the Business Combination and the related financing transactions, we will have a substantial amount of indebtedness. As of December 31, 2015, after giving effect to the Business Combination and the related financing transactions, we would have had total indebtedness of $2,549 million, including the Notes offered hereby. As of the same date, on a pro forma combined basis, we expect to have an additional $200 million of borrowing capacity (excluding $5.3 million of outstanding letters of credit) available under the New ABL Facility. We are permitted to draw on the New ABL Facility on the closing date of the Business Combination in an aggregate principal amount up to $75 million to finance the Business Combination or for working capital needs. Based on estimated working capital needs as of the closing date of the Business Combination, we expect to have $44 million outstanding on the New ABL Facility at the closing of this offering.

On a pro forma combined basis, our net interest expense, for the year ended December 31, 2015 would have been $215.4 million based on the assumed interest rates payable on our pro forma indebtedness. As of December 31, 2015, on a pro forma combined basis, we would have had outstanding approximately $1,200 million in aggregate principal amount of indebtedness under our New Term Loan Facility and $625 million in aggregate principal amount of indebtedness under our New Senior Unsecured Notes, all of which would bear interest at a floating rate. We expect to have $44 million outstanding on the New ABL Facility at the closing of this offering.

Our substantial level of indebtedness will increase the possibility that we may be unable to generate cash sufficient to pay, when due, the principal of, interest on or other amounts due in respect of our indebtedness. Our substantial indebtedness, combined with our other financial obligations and contractual commitments, could have important consequences for our noteholders. For example, it could:

- make it more difficult for us to satisfy our obligations with respect to our indebtedness, including the Notes, and any failure to comply with the obligations under any of our debt instruments, including restrictive covenants, could result in an event of default under the indenture governing the Notes and the agreements governing such other indebtedness;

- require us to dedicate a substantial portion of our cash flow from operations to payments on our indebtedness, thereby reducing funds available for working capital, capital expenditures, acquisitions, selling and marketing efforts, product development and other purposes;
- increase our vulnerability to adverse economic and industry conditions, which could place us at a competitive disadvantage compared to our competitors that have relatively less indebtedness;
- limit our flexibility in planning for, or reacting to, changes in our business and the industries in which we operate;
- expose us to the risk of increasing rates as certain of our borrowings, including under the New Senior Secured Credit Facilities and the New Senior Unsecured Notes, will be at variable interest rates;
- restrict us from making strategic acquisitions or cause us to make non-strategic divestitures;
- limit our ability to borrow additional funds, or to dispose of assets to raise funds, if needed, for working capital, capital expenditures, acquisitions, product development and other corporate purposes; and
- prevent us from raising the funds necessary to repurchase all Notes tendered to us upon the occurrence of certain changes of control, which would constitute a default under the indenture governing the Notes.

The occurrence of any one of these events could have an adverse effect on our business, financial condition, results of operations, prospects and ability to satisfy our obligations under our indebtedness, including the Notes.

We will have the ability to incur substantially more indebtedness, including senior secured indebtedness.

Subject to the restrictions in our New Senior Secured Credit Facilities, the indenture governing the 2022 Notes, the agreement governing the New Senior Unsecured Notes and the indenture governing the Notes offered hereby, we may incur significant additional indebtedness. As of December 31, 2015, on a pro forma combined as adjusted basis, we would have had:

- $1,722.2 of senior secured debt, consisting of borrowings under the New Senior Secured Credit Facilities, the Notes offered hereby, debt related to New Market Tax Credits described in "Description of Other Indebtedness" and capital leases; and
- $827.2 million of senior unsecured debt, consisting of the $200 million of 2022 Notes, $625 million of the New Senior Unsecured Notes and $2.2 million of other debt.

In addition, upon the completion of the Business Combination and the related financing transactions, as of December 31, 2015, on a pro forma basis, subject to certain limitations, we expect to have an additional $200 million of borrowing capacity (excluding $5.3 million of outstanding letters of credit) under our New ABL Facility, which, if borrowed, would be senior secured indebtedness. We are permitted to draw on the New ABL Facility on the closing date of the Business Combination in an aggregate principal amount up to $75 million to finance the Business Combination or for working capital needs. Based on estimated working capital needs as of the closing date of the Business Combination, we expect to have $44 million outstanding on the New ABL Facility at the closing of this offering. We also have the option to add one or more incremental facilities under (i) the agreement governing our New Term Loan Facility in an aggregate amount of up to $200 million plus an unlimited additional amount so long as after giving pro forma effect to the incurrence of such additional amount, we are in compliance with certain leverage ratios and (ii) the agreement governing our New ABL Facility in an aggregate amount of up to $50 million plus an additional amount equal to the excess of the borrowing base over the then existing commitments so long as after giving pro forma effect to the incurrence of such additional amount, we are in compliance with certain leverage ratios. See "Description of Other Indebtedness."

Although the terms of our New Senior Secured Credit Facilities, the indenture governing the 2022 Notes, the agreement governing the New Senior Unsecured Notes and the indenture governing the Notes offered hereby will contain restrictions on the incurrence of additional indebtedness, these restrictions will be subject to a number of important exceptions, and indebtedness incurred in compliance with these restrictions could be substantial. If we and our restricted subsidiaries incur significant additional indebtedness, the related risks that we face could increase.

Risks Related to the Notes

We may not be able to generate sufficient cash to service all of our indebtedness, including the Notes, and may be forced to take other actions to satisfy our obligations under our indebtedness, which may not be successful.

Our ability to make scheduled payments on or to refinance our debt obligations depends on our financial condition and operating performance, which are subject to prevailing economic and competitive conditions and to certain financial, business and other factors beyond our control. We cannot assure you that we will maintain a level of cash flows from operating activities sufficient to permit us to pay the principal, premium, if any, and interest on our indebtedness, including the Notes.

If our cash flows and capital resources are insufficient to fund our debt service obligations, we may be forced to reduce or delay investments and capital expenditures, or to sell assets, seek additional capital or restructure or refinance our indebtedness, including the Notes. These alternative measures may not be successful and may not permit us to meet our scheduled debt service obligations. In the absence of such operating results and resources, we could face substantial liquidity problems and might be required to dispose of material assets or operations to meet our debt service and other obligations. Our New Senior Secured Credit Facilities, the indenture governing the 2022 Notes, the indenture governing the Notes offered hereby and the indenture governing the New Senior Unsecured Notes, will restrict our ability to dispose of assets and use the proceeds from the disposition. We may not be able to consummate those dispositions or to obtain the proceeds that we could realize from them and these proceeds may not be adequate to meet any debt service obligations then due.

Because a significant portion of our operations is conducted through our subsidiaries and joint ventures, we are largely dependent on our receipt of distributions and dividends or other payments from our subsidiaries and joint ventures for cash to fund all of our operations and expenses, including interest payments.

A significant portion of our operations is conducted through our subsidiaries and joint ventures. As a result, our ability to service our debt is largely dependent on the earnings of our subsidiaries and joint ventures and the payment of those earnings to us in the form of dividends, loans or advances and through repayment of loans or advances from us. Payments to us by our subsidiaries and joint ventures will be contingent upon our subsidiaries' or joint ventures' earnings and other business considerations and may be subject to statutory or contractual restrictions. In addition, Delaware law may impose requirements that may restrict our ability to pay dividends to holders of our common stock. In addition, there may be significant tax and other legal restrictions on the ability of foreign subsidiaries or joint ventures to remit money to us.

Your claims to our assets will be structurally subordinated to all of the creditors of any non-guarantor subsidiaries.

Not all of our subsidiaries will be required to guarantee the Notes. In the event that any non-guarantor subsidiary becomes insolvent, liquidates, reorganizes, dissolves or otherwise winds up, holders of its indebtedness and its trade creditors generally will be entitled to payment on their claims from the assets of that subsidiary before payments are made to us. Accordingly, claims of holders of the Notes will be structurally subordinated to the claims of creditors of any future non-guarantor subsidiaries, including trade creditors. For the year ended December 31, 2015, our non-guarantor subsidiaries represented approximately 35% of our total pro forma combined sales and 32% of our Pro Forma Combined Adjusted EBITDA. In addition, these non-guarantor subsidiaries represented approximately 19% of our pro forma combined total assets and $174.5 million, or 6% of our pro forma combined total liabilities as of December 31, 2015.

If we default on our obligations to pay our indebtedness, we may not be able to make payments on the Notes.

Any default under the agreements governing our indebtedness, including a default under the New Senior Secured Credit Facilities, the New Senior Unsecured Notes and the 2022 Notes that is not waived by the required lenders, and the remedies sought by the holders of such indebtedness, could prevent us from paying principal, premium, if any, and interest on the Notes and substantially decrease the market value of the Notes. If we are unable to generate sufficient cash flow and are otherwise unable to obtain funds necessary to meet required payments of principal, premium, if any, and interest on our indebtedness, or if we otherwise fail to comply with the various covenants, including financial and operating covenants, in the instruments governing our indebtedness (including covenants in our New Senior Secured Credit Facilities, the indentures governing the Notes and the 2022 Notes and the agreement governing the New Senior Unsecured Notes), we could be in default under the terms of the agreements governing such indebtedness. In the event of such default, the holders of such indebtedness could elect to declare all the funds borrowed thereunder to be due and payable, together with accrued and unpaid interest, the lenders under our New Senior Secured Credit Facilities could elect to terminate their commitments thereunder, cease making further loans and institute foreclosure proceedings against our assets, and we could be forced into bankruptcy or liquidation. If our operating performance declines, we may in the future need to obtain waivers from the required lenders under our New Senior Secured Credit Facilities, the New Senior Unsecured Notes and the 2022 Notes to avoid being in default. If we breach our covenants under our New Senior Secured Credit Facilities, the New Senior Unsecured Notes and the 2022 Notes and seek a waiver, we may not be able to obtain a waiver from the required lenders. If this occurs, we would be in default under our New Senior Secured Credit Facilities, the New Senior Unsecured Notes and the 2022 Notes, the lenders could exercise their rights, as described above, and we could be forced into bankruptcy or liquidation.

We will in most cases have control over the collateral securing the Notes, and the sale of particular assets by us could reduce the pool of assets securing the Notes and the guarantees thereof.

We will be allowed to remain in possession of, retain exclusive control over, freely operate, and collect, invest and dispose of any income from, the collateral securing the Notes, with certain limited exceptions. To the extent we sell or take actions that reduce the value of the collateral securing the Notes, it will reduce the pool of assets securing the Notes and the related guarantees.

Even though the holders of the Notes benefit from a pari passu lien on the collateral that secures our New Term Loan Facility, the collateral agent under the New Term Loan Facility initially controls actions with respect to that collateral.

Under the terms of the *pari passu* intercreditor agreement, at any time that obligations under our New Term Loan Facility, are outstanding, subject to certain other limitations, any actions that may be taken in respect of the collateral securing the Notes that is not New ABL Priority Collateral (as defined herein), including the ability to cause the commencement of enforcement proceedings against the collateral and to control the conduct of such proceedings, are at the direction of the holders of indebtedness under our New Term Loan Facility (and if the New Term Loan Facility is refinanced, the holders of any refinancing indebtedness may accede to these rights) and neither the trustee nor the collateral agent, on behalf of the holders of the Notes, has the ability to control or direct such actions, even if the rights of the holders of the Notes are adversely affected. These lenders may cause the agent for the New Term Loan Facility (and if the New Term Loan Facility is refinanced, the holders of any refinancing indebtedness may accede to these rights) to dispose of, release or foreclose on, or take other actions with respect to the collateral with which holders of the Notes may disagree or that may be contrary to the interest of holders of the Notes.

In addition, because the lenders under the New Term Loan Facility (and if the New Term Loan Facility is refinanced, the holders of any refinancing indebtedness may accede to these rights) control the disposition of the collateral, such holders could decide not to proceed against the collateral that is not the New ABL Priority Collateral, regardless of whether there is a default under the documents governing such indebtedness or under the indenture governing the Notes, in such event, subject to certain limited exceptions, and subject to the right of the holders of Notes to commence enforcement actions after a period of 180 days after the occurrence of an event of default under the indenture governing the Notes, if the Notes represent the largest outstanding principal amount of indebtedness secured by a *pari passu* lien on the collateral and the agent under the New Term Loan Facility (and if the New Term Loan Facility is refinanced, the holders of any refinancing indebtedness may accede to these rights) is not pursuing an enforcement. If the lenders under the New Term Loan Facility (and if the New Term Loan Facility is refinanced, the holders of any refinancing indebtedness may accede to these rights) are not pursuing such enforcement actions, the only remedy available to the holders of the Notes would be to sue for payment on the Notes and the related guarantees.

In addition, in the event of any insolvency or liquidation proceeding, if the lenders under the New Term Loan Facility desire to permit any amount of debtor-in-possession ("DIP") financing, the collateral agent for the Notes will, subject to certain exceptions, not be permitted to raise any objection to such DIP financing.

It may be difficult to realize the value of the collateral securing the Notes.

The collateral securing the Notes is subject to any and all exceptions, defects, encumbrances, liens and other imperfections as may be accepted by the trustee for the Notes and any other creditors that also have the benefit of first liens on the collateral securing the Notes from time to time. The initial purchasers have neither analyzed the effect of, nor participated in any negotiations relating to such exceptions, defects, encumbrances, liens and other imperfections. The existence of any such exceptions, defects, encumbrances, liens and other imperfections could adversely affect the value of the collateral securing the Notes, as well as the ability of the trustee, as collateral agent for the Notes, to realize or foreclose on such collateral.

No appraisals of any collateral have been prepared in connection with this offering. The value of the collateral at any time is dependent on market and other economic conditions, including the availability of suitable buyers. By their nature, some or all of the pledged assets may be illiquid and may have no readily ascertainable market value. We cannot assure you that the fair market value of the collateral as of the date of this offering memorandum exceeds the principal amount of the debt secured thereby. The value of the assets pledged as collateral for the Notes could be impaired in the future as a result of changing economic conditions, our failure to implement our business strategy, competition and other future trends. In the event that a bankruptcy case is commenced by or against us, if the value of the collateral is less than the amount of principal and accrued and unpaid interest on the Notes and all other senior secured obligations, interest may cease to accrue on the Notes from and after the date the bankruptcy petition is filed.

The security interest of the trustee, as collateral agent for the Notes, is subject to practical problems generally associated with the realization of security interests in collateral. For example, the trustee, as collateral agent for the Notes, may need to obtain the consent of a third party to obtain or enforce a security interest in a contract. We cannot assure you that the collateral agent will be able to obtain any such consent. We also cannot assure you that the consents of any third parties will be given when required to facilitate a foreclosure on such assets. Accordingly, the trustee, as collateral agent for the Notes, may not have the ability to foreclose upon those assets and the value of the collateral may significantly decrease. The Notes and the related guarantees are secured, subject to permitted liens, (i) by a first-priority lien in the collateral that secures our New Term Loan Facility on a first-priority basis (other than accounts receivable, inventory, cash, bank accounts, certain related assets and proceeds of the foregoing, collectively, the "New ABL Priority Collateral") (all such collateral, other than the New ABL Priority Collateral, the "Notes Priority Collateral") and (ii) a second priority lien on the New ABL Priority Collateral, and share equally in right of payment with the New Term Loan Facility to the extent of the value of such collateral securing such New Term Loan Facility. The indenture governing the Notes offered hereby permits us to incur additional indebtedness secured by a lien that ranks equally with, or in certain circumstances, senior to the Notes. Any such indebtedness may further limit the recovery from the realization of the value of such collateral available to satisfy holders of the Notes.

There may not be sufficient collateral to pay off all amounts we may borrow under our New ABL Facility, New Term Loan Facility, the Notes and additional indebtedness that we may incur that would be secured on the same basis as or senior to the Notes. Liquidating the collateral securing the Notes may not result in proceeds in an amount sufficient to pay any amounts due under the Notes after also satisfying the obligations to pay any creditors with prior liens. In addition, we may be required to repay obligations under our New Term Loan Facility with proceeds from a sale of assets before repaying the Notes. If the proceeds of any sale of collateral are not sufficient to repay all amounts due on the Notes, the holders of the Notes (to the extent not repaid from the proceeds of the sale of the collateral) would have only a senior unsecured, unsubordinated claim against our and the subsidiary guarantors' remaining assets.

The liens of the holders of the Notes on the New ABL Priority Collateral are subordinated to the New ABL Facility to the extent of the value of the New ABL Priority Collateral.

Borrowings and letters of credit issued under our New ABL Facility are secured by a first priority lien on the New ABL Priority Collateral and the liens of the holders of the Notes on the New ABL Priority Collateral are subordinated to the New ABL Facility pursuant to the terms of the New ABL Facility intercreditor agreement. Therefore, the Notes are effectively junior to obligations outstanding under the New ABL Facility to the extent of the value of the New ABL Priority Collateral.

The collateral securing the Notes may be diluted under certain circumstances.

The New ABL Priority Collateral that secures the Notes by a second-priority lien secures our obligations under the New ABL Facility by a first-priority lien. In the future, the New ABL Priority Collateral and the Notes Priority Collateral may secure on a first-priority basis additional senior indebtedness that we are permitted to incur. While the New ABL Facility, the New Term Loan Facility and the indentures governing the Notes, the New Senior Unsecured Notes and the 2022 Notes contain restrictions on our ability to incur debt and liens in the future, to the extent we do incur any such additional secured debt, your rights to the New ABL Priority Collateral and the Notes Priority Collateral would be diluted by any increase in the indebtedness secured on a first-priority basis by the collateral.

There are circumstances other than repayment or discharge of the Notes under which collateral could be released automatically without the consent of the holders of the Notes, which could be adverse to holders of Notes.

Under various circumstances, all or a portion of the collateral may be released, including:

- to enable the sale, transfer or other disposal of such collateral in a transaction not prohibited under the indenture, including the sale of any entity in its entirety that owns or holds such collateral; and
- with respect to collateral held by a guarantor, upon the release of such guarantor from its guarantee; and
- upon any release in connection with a foreclosure or exercise of remedies with respect to that collateral directed by the collateral agent under our New Term Loan Facility during any period that such collateral agent controls actions with respect to the collateral pursuant to the *pari passu* intercreditor agreement. Even though the holders of the Notes share ratably with the lenders under our New Term Loan Facility, the collateral agent under our New Term Loan Facility initially controls actions with respect to the collateral, whether or not the holders of the Notes agree or disagree with those actions. See "—Risks Related to Our Indebtedness and the Notes—Even though the holders of the Notes benefit from a pari passu lien on the collateral that secures our New Term Loan Facility, the collateral agent under the New Term Loan Facility initially control actions with respect to that collateral"; and
- upon any release in connection with a foreclosure or exercise of remedies with respect to the New ABL Priority Collateral directed by the collateral agent under our New ABL Facility. The collateral agent under our New ABL Facility controls actions with respect to the ABL Priority Collateral, whether or not the holders of the Notes agree or disagree with those actions. See "—Risks Related to Our Indebtedness and the Notes—The liens of the holders of the Notes on the New ABL Priority Collateral are subordinated to the New ABL Facility to the extent of the value of the New ABL Priority Collateral."

Our subsidiaries that guarantee the New Term Loan Facility or incur or guarantee certain other indebtedness are required to be subsidiary guarantors and guarantee the Notes. The guarantee of any subsidiary guarantor will be released in connection with a sale of such subsidiary guarantor in a transaction not prohibited by the indenture. The indenture will also permit us to designate one or more of our restricted subsidiaries that is a guarantor of the Notes as an unrestricted subsidiary. If we designate a subsidiary guarantor as an unrestricted subsidiary, all of the liens on any collateral owned by such subsidiary or any of its subsidiaries and any guarantees of the Notes by such subsidiary or any of its subsidiaries will be released under the indenture. Designation of an unrestricted subsidiary will reduce the aggregate value of the collateral with respect to the Notes to the extent that liens on the assets of the unrestricted subsidiary and its subsidiaries are released. In addition, the creditors of the unrestricted subsidiary and its subsidiaries will have a structurally senior claim on the assets of such unrestricted subsidiary and its subsidiaries. See "Description of the Notes."

Security over certain collateral may not be in place prior to closing, may not be perfected prior to closing and may be invalidated following closing, and we will not obtain mortgage title insurance policies at the time of issuance of the notes or updated surveys.

The security interests in certain collateral securing the Notes and guarantees may not be in place or perfected on the closing date of this offering. For example, we do not expect that liens on mortgages on the real property owned by us or our subsidiaries and intended to secure the Notes and the guarantees will be in place at the time of the issuance of the Notes. The real properties intended to be mortgaged may constitute a significant portion of the value of the collateral intended to secure the Notes and the guarantees.

To the extent any security interest in the collateral securing the notes and guarantees is required to be perfected and cannot be perfected on or prior to the closing date, the indenture governing the notes will require us to use our commercially reasonable efforts to have all such security interests perfected, to the extent required by the indenture governing the notes and the security documents, promptly, and in any event within 120 days, following the issue date (unless the corresponding date for delivering such collateral under the New Term Loan Facility is extended, in which case the corresponding date for delivery of the collateral securing the notes shall be automatically extended). If we, or any guarantor, were to become subject to a bankruptcy proceeding, any liens recorded or perfected after the issue date would face a greater risk of being invalidated than if they had been recorded or perfected on the issue date, and there will be no assurance prior to issuance of the Notes that all properties contemplated to be mortgaged as security for the Notes will be mortgaged, and any failure to deliver such mortgages, or any issues that we are unable to resolve in connection with the delivery of such mortgages, may impact the value of the collateral. Liens recorded or perfected after the closing date may be treated under bankruptcy law as if they were delivered to secure previously existing indebtedness. In bankruptcy proceedings commenced within 90 days of lien perfection, a lien given to secure previously existing debt is materially more likely to be avoided as a preference by the bankruptcy court than if delivered and promptly recorded on the issue date. Accordingly, if we or a guarantor were to file for bankruptcy protection after the issue date of the outstanding notes and the liens had been perfected less than 90 days before commencement of such bankruptcy proceeding, or not yet perfected at all, the liens securing the Notes may be especially subject to challenge as a result of having not been perfected before the closing date. To the extent that such challenge succeeded, you would lose the benefit of the security that the collateral was intended to provide.

Furthermore, no surveys or title insurance have been or will be delivered as to such real properties at the time of issuance of the Notes. As a result, there is and will be no independent assurance that, among other things, (i) the real property encumbered by the mortgages includes all of the property owned by us and our guarantors that we intend to include, (ii) that our title to such owned or leased real property is not encumbered by liens and other defects not permitted by the indenture and (iii) no unpaid taxes, encroachments, adverse possession claims, zoning or other restrictions exist with respect to such owned or leased real properties which could result in a material adverse effect on the value or utility of such owned or leased real properties.

State law may limit the ability of the collateral agent and the holders of the Notes to foreclose on real property and improvements included in the collateral.

The Notes will be secured by, among other things, liens on certain real property owned by the issuer or certain subsidiary guarantors and improvements. Liens on after-acquired real estate owned by certain Guarantors and improvements may not be created in certain jurisdictions where our real property that is subject to mortgages is located unless the appropriate security document is amended to include such real property. Applicable laws may also limit the ability of the collateral agent to foreclose on the improved real property collateral. Furthermore, applicable laws that govern the perfection, enforceability and foreclosure of mortgage liens against real property which secure debt obligations such as the Notes may impose procedural requirements for foreclosure differing from and necessitating a longer time period for completion than the requirements for foreclosure of security interest in personal property. Debtors may have the right to reinstate defaulted debt (even if it has been accelerated) before the foreclosure date by paying the past due amounts and a right of redemption after foreclosure. Applicable law may also impose security first and one form of action rules, which rules can affect the ability to foreclose or the timing of foreclosure on real and personal property collateral regardless of the location of the collateral and may limit the right to recover a deficiency following a foreclosure.

The holders of the Notes and the Trustee also may be limited in their ability to enforce a breach of the covenant pertaining to liens. Some decisions of certain state courts have placed limits on a lender’s ability to accelerate debt as a result of a breach of this type of a covenant. Under these decisions, a lender seeking to accelerate debt secured by real property upon breach of covenants prohibiting the creation of certain junior liens or leasehold estates may need to demonstrate that enforcement is reasonably necessary to protect against impairment of the lender’s security or to protect against an increased risk of default.

Although the foregoing court decisions may have been preempted, at least in part, by certain federal laws, the scope of such preemption, if any, is uncertain. Accordingly, a court could prevent the Trustee and the holders of the Notes from declaring a default and accelerating the Notes by reason of a breach of this covenant, which could have a material adverse effect on the ability of holders to enforce the covenant.

Our ability to use and operate certain portions of our facilities may be limited by the validity of, or a default or termination under, our real property leases and your ability to recover as a secured creditor may be affected by a default or termination under such leases, as well as the fact that you will not have leasehold mortgages on such leases.

Certain portions of our facilities are leased from third party landlords, and we expect to lease facilities in the future. Mortgages on these leased facilities will not be part of the security for the Notes. In addition, the invalidity of, or default or termination under, any of our leases may interfere with our ability to use and operate all or a portion of certain of our facilities, which may have an adverse impact on our operations and financial results.

Your rights in the collateral may be adversely affected by the failure to perfect security interests in collateral or record mortgages.

Applicable law provides that a security interest in certain tangible and intangible assets can only be properly perfected and its priority retained through certain actions undertaken by the secured party. The liens in the collateral securing the Notes may not be perfected with respect to the claims of such Notes if the trustee, as collateral agent for the Notes, is not able to take the actions necessary to perfect any of these liens or if mortgages are not recorded. In addition, applicable law provides that certain property and rights acquired after the grant of a general security interest, such as real property, equipment subject to a certificate of title and certain proceeds, can only be perfected at the time such property and rights are acquired and identified. The issuer and the subsidiary guarantors have limited obligations to perfect the noteholders’ security interest in specified collateral. There can be no assurance that the trustee, as collateral agent for the Notes, will monitor, or that we will inform the trustee of, the future acquisition of property and rights that constitute collateral, and that the necessary action will be taken to properly perfect the security interest in such after-acquired collateral. The trustee, as collateral agent for the Notes, has no obligation to monitor the acquisition of additional property or rights that constitute collateral or the perfection of any security interest. Such failure may result in the loss of the security interest in the collateral or the priority of the security interest in favor of the trustee, as collateral agent for the Notes, as applicable, against third parties.

Bankruptcy laws may limit your ability to realize value from the collateral.

The right of the trustee, as collateral agent for the Notes, to repossess and dispose of the collateral upon the occurrence of an event of default under the indenture governing the Notes is likely to be significantly impaired by applicable bankruptcy law if a bankruptcy case were to be commenced by or against us before the trustee, as collateral agent for the Notes, repossessed and disposed of the collateral. Upon the commencement of a case under the U.S. Bankruptcy Code (the "Bankruptcy Code"), a secured creditor such as the trustee, as the collateral agent for the Notes, is prohibited from repossessing its security from a debtor in a bankruptcy case, or from disposing of security repossessed from such debtor, without bankruptcy court approval, which may not be given. Moreover, the Bankruptcy Code permits the debtor to continue to retain and use collateral even though the debtor is in default nder the applicable debt instruments, provided that the secured creditor is given "adequate protection." The meaning of the term "adequate protection" may vary according to circumstances, but it is intended in general to protect the value of the secured creditor's interest in the collateral as of the commencement of the bankruptcy case and may include cash payments or the granting of additional security if and at such times as the bankruptcy court in its discretion determines that the value of the secured creditor's interest in the collateral is declining during the pendency of the bankruptcy case. A bankruptcy court may determine that a secured creditor may not require compensation for a diminution in the value of its collateral if the value of the collateral exceeds the debt it secures.

In view of the lack of a precise definition of the term "adequate protection" and the broad discretionary power of a bankruptcy court, it is impossible to predict:

- how long payments under the Notes could be delayed following commencement of a bankruptcy case;
- whether or when the trustee, as collateral agent for the Notes, could repossess or dispose of the collateral;
- the value of the collateral at the time of the bankruptcy petition; or
- whether or to what extent holders of the Notes would be compensated for any delay in payment or loss of value of the collateral through the requirement of "adequate protection."

Any disposition of the collateral during a bankruptcy case would also require permission from the bankruptcy court.

In the event of a bankruptcy of us or any of the guarantors, holders of the Notes may be deemed to have an unsecured claim to the extent that our obligations in respect of the Notes exceed the Notes' share of the fair market value of the collateral securing the Notes.

In any bankruptcy proceeding with respect to us or any of the guarantors, it is possible that the bankruptcy trustee, the debtor-in-possession or competing creditors will assert that the fair market value of the collateral with respect to the Notes on the date of the bankruptcy filing was less than the then-current principal amount of the Notes and other obligations secured on a pari passu basis. Upon a finding by the bankruptcy court that the Notes are under-collateralized, the claims in the bankruptcy proceeding with respect to the Notes would be bifurcated between a secured claim and an unsecured claim, and the unsecured claim would not be entitled to the benefits of security in the collateral. Other consequences of a finding of under-collateralization would be, among other things, a lack of entitlement on the part of the Notes to receive post-petition interest and a lack of entitlement on the part of the unsecured portion of the Notes to receive other "adequate protection" under federal bankruptcy laws. In addition, if any payments of postpetition interest had been made at the time of such a finding of under-collateralization, those payments could be recharacterized by the bankruptcy court as a reduction of the principal amount of the secured claim with respect to the Notes.

The Notes' share of the value of the collateral securing the Notes may not be sufficient to secure post-petition interest.

In the event of a bankruptcy, liquidation, dissolution, reorganization or similar proceeding against us, holders of the Notes and other obligations secured on a *pari passu* basis may only be entitled to post-petition interest under the Bankruptcy Code to the extent that the value of their share of the Notes Priority Collateral, and any ABL Priority Collateral that is in excess of obligations under the New ABL Facility (including any post-petition interest payable thereunder), is greater than their pre-bankruptcy claim. Holders of the Notes and other obligations secured on a *pari passu* basis that have a security interest in such collateral with a value equal or less than their pre-bankruptcy claim will not be entitled to post-petition interest under the Bankruptcy Code. No appraisal of the fair market value of the collateral has been prepared in connection with this offering and we therefore cannot assure you that the value of the noteholders' interest in the collateral equals or exceeds the principal amount of the Notes.

Any future pledge of collateral might be avoidable in bankruptcy.

Any future pledge of collateral in favor of the trustee, as collateral agent for the Notes, for the holders of the Notes, might be avoidable by the pledgor (as debtor in possession) or by its trustee in bankruptcy if certain events or circumstances exist or occur, including, among others, if the pledgor is insolvent at the time of the pledge, the pledge permits the holders of the Notes to receive a greater recovery than if the pledge had not been given and a bankruptcy proceeding in respect of the pledgor is commenced within 90 days following the pledge, or, in certain circumstances, a longer period.

The collateral is subject to casualty risks and environmental liabilities.

We intend to maintain insurance or otherwise insure against hazards in a manner appropriate and customary for our business. There are, however, certain losses that may be either uninsurable or not economically insurable, in whole or in part. Insurance proceeds may not compensate us fully for our losses. If there is a complete or partial loss of any of the pledged collateral, the insurance proceeds may not be sufficient to satisfy all of the secured obligations, including obligations under the New Term Loan Facility, the Notes and the guarantees in respect thereof.

The trustee, as collateral agent for the notes, may be unable to or may decline to foreclose on such collateral or exercise remedies available in respect thereof based on certain environmental laws or extraordinary costs associated with hazardous substances if it does not receive indemnification to its satisfaction from the holders of the Notes.

Claims of noteholders will be structurally subordinated to claims of creditors of certain of our subsidiaries that will not guarantee the Notes.

The Notes are not guaranteed by certain of our subsidiaries, including certain of our non-U.S. subsidiaries or non-wholly owned subsidiaries. Accordingly, claims of holders of the Notes are structurally subordinated to the claims of creditors of these non-guarantor subsidiaries, including trade creditors. All obligations of our non-guarantor subsidiaries will have to be satisfied before any of the assets of such subsidiaries would be available for distribution, upon a liquidation or otherwise, to us or a guarantor of the Notes.

For the year ended December 31, 2015, our non-guarantor subsidiaries represented approximately 35% of our pro forma combined sales and 32% of our Pro Forma Combined Adjusted EBITDA. In addition, these non-guarantor subsidiaries represented approximately 19% of our pro forma combined total assets and $174.5 million, or 6% of our pro forma combined total liabilities as of December 31, 2015.

We may not be able to repurchase the Notes upon a change of control.

Upon the occurrence of specific kinds of change of control events, we will be required to offer to repurchase all Notes at 101% of their principal amount plus accrued and unpaid interest. The source of funds for any such purchase of the Notes will be our available cash or cash generated from our subsidiaries' operations or other sources, including borrowings, sales of assets or sales of equity. We may not be able to repurchase the Notes upon a change of control because we may not have sufficient financial resources to purchase all of the notes that are tendered upon a change of control. Further, we will be contractually restricted under the terms of our New Senior Secured Credit Facilities from repurchasing all of the notes tendered by holders upon a change of control. Accordingly, we may not be able to satisfy our obligations to purchase the Notes unless we are able to refinance or obtain waivers under our New Senior Secured Credit Facilities. Our failure to repurchase the Notes upon a change of control would cause a default under the indenture governing the Notes and a cross-default under the New Senior Secured Credit Facilities. The New Senior Secured Credit Facilities will also provide that a change of control will be a default that permits lenders to accelerate the maturity of borrowings thereunder. Any of our future debt agreements may contain similar provisions.

Holders of Notes may not be able to determine when a change of control giving rise to their right to have the Notes repurchased by us has occurred following a sale of "substantially all" of our assets.

A change of control, as defined in the indenture governing the Notes, requires us to make an offer to repurchase all outstanding notes. The definition of change of control includes a phrase relating to the sale, lease or transfer of "all or substantially all" of our assets. There is no precise established definition of the phrase "substantially all" under applicable law. Accordingly, the ability of a holder of Notes to require us to repurchase its Notes as a result of a sale, lease or transfer of less than all of our assets to another individual, group or entity may be uncertain.

The lenders under the New Term Loan Facility will have the discretion to release any future guarantors under the Senior Term Loan Facility in a variety of circumstances, which will cause those guarantors to be released from their guarantees of the Notes.

While any obligations under the New Term Loan Facility remain outstanding, subject to the terms of applicable intercreditor agreements and/or security documents, any guarantee of the Notes may be released without action by, or consent of, any holder of the Notes or the trustee under the indenture governing the Notes, at the discretion of lenders under the New Term Loan Facility, if the relevant guarantor is no longer a guarantor of obligations under the New Term Loan Facility or any other indebtedness. See "Description of the Notes—Guarantees." The lenders under the New Term Loan Facility will have the discretion to release the guarantees under the New Term Loan Facility in a variety of circumstances. You will not have a claim as a creditor against any subsidiary that is no longer a guarantor of the Notes, and the indebtedness and other liabilities, including trade payables, whether secured or unsecured, of those subsidiaries will effectively and structurally be senior to claims of noteholders.

Federal and state fraudulent transfer laws may permit a court to void the Notes or any guarantees, and, if that occurs, you may not receive any payments on the Notes.

Federal and state fraudulent transfer and conveyance statutes may apply to the issuance of the Notes and the incurrence of the guarantees. Under federal bankruptcy law and comparable provisions of state fraudulent transfer or conveyance laws, which may vary from state to state, the Notes or any guarantees could be voided as a fraudulent transfer or conveyance if (i) we or any of the guarantors, as applicable, issued the Notes or incurred the guarantees with the intent of hindering, delaying or defrauding creditors or (ii) we or any of the guarantors, as applicable, received less than reasonably equivalent value or fair consideration in return for either issuing the Notes or incurring the guarantees and, in the case of (ii) only, one of the following is also true at the time thereof:

- we or any of the guarantors, as applicable, were insolvent or rendered insolvent by reason of the issuance of the Notes or the incurrence of the guarantees;
- the issuance of the Notes or the incurrence of the guarantees left us or any of the guarantors, as applicable, with an unreasonably small amount of capital to carry on the business;

- we or any of the guarantors intended to, or believed that we or such guarantor would, incur debts beyond our or such guarantor's ability to pay as they mature; or
- we or any of the guarantors was a defendant in an action for money damages, or had a judgment for money damages docketed against us or such guarantor if, in either case, after final judgment, the judgment is unsatisfied.

If a court were to find that the issuance of the Notes or the incurrence of the guarantee was a fraudulent transfer or conveyance, the court could void the payment obligations under the Notes or such guarantee, or subordinate the Notes or such guarantee to presently existing and future indebtedness of ours or of the related guarantor, or require the holders of the Notes to repay any amounts received. In the event of a finding that a fraudulent transfer or conveyance occurred, you may not receive any payment on the Notes. As a general matter, value is given for a transfer or an obligation if, in exchange for the transfer or obligation, property is transferred or an antecedent debt is secured or satisfied. A debtor will generally not be considered to have received value in connection with a debt offering if the debtor uses the proceeds of that offering to make a dividend payment or otherwise retire or redeem equity securities issued by the debtor.

We cannot be certain as to the standards a court would use to determine whether or not we or the guarantors were solvent at the relevant time or, regardless of the standard that a court uses, that the Notes or the guarantees would not be subordinated to our or any of our guarantors' other debt.

Holders of the Notes will not be entitled to registration rights, and we do not currently intend to register the Notes under applicable securities laws. There are restrictions on your ability to transfer or resell the Notes without registration under applicable securities laws.

The Notes are being offered and sold pursuant to an exemption from registration under U.S. and applicable state securities laws, and we do not currently intend to register the Notes. The holders of the Notes will not be entitled to require us to register the Notes for resale or otherwise. Therefore, you may transfer or resell the Notes in the United States only in a transaction registered under or exempt from the registration requirements of the United States and applicable state securities laws, and you may be required to bear the risk of your investment for an indefinite period of time. See "Transfer Restrictions."

Your ability to transfer the Notes may be limited by the absence of an active trading market, and an active trading market for the Notes may not develop.

The Notes are new issues of securities for which there is no established public market. We do not intend to have the Notes or any exchange Notes listed on a national securities exchange or to arrange for quotation on any automated dealer quotation systems.

The initial purchasers have advised us that they intend to make a market in the Notes, and the exchange Notes, if issued, as permitted by applicable laws and regulations; however, the initial purchasers are not obligated to make a market in any of the Notes or the exchanges notes, and they may discontinue their market-making activities at any time without notice.

Therefore, an active market for any of the Notes or exchange Notes may not develop, and if a market for any of the Notes or exchange notes does develop, that market may not continue. Historically, the market for noninvestment grade debt has been subject to disruptions that have caused substantial volatility in the prices of securities similar to the Notes. The market, if any, for any of the Notes or exchange notes may be subject to similar disruptions, and any such disruptions may adversely affect the prices at which you may sell your Notes. In addition, subsequent to their initial issuance, the Notes or exchange notes may trade at a discount from their initial offering price, depending upon prevailing interest rates, the market for similar notes, our performance and other factors.

***We are indirectly owned and controlled by CCMP and INEOS, and their interests as equity holders may conflict with those of our note holders*.**

Following the consummation of the Business Combination, representatives of CCMP and INEOS will occupy a majority of the seats on our Board of Directors. Accordingly, CCMP and INEOS will have the ability to control our policies and operations. CCMP and INEOS will not have any liability for any obligations under the Notes and the interests of CCMP and INEOS could conflict with your interests as noteholders. For example, if we encounter financial difficulties or are unable to pay our debts as they mature, the interests of CCMP and INEOS as equity holders might conflict with your interests as a note holder. CCMP and INEOS may also have an interest in pursuing acquisitions, divestitures, financings or other transactions that could, in their judgment, enhance their equity investments, although such transactions might involve risks to you as a noteholder. In addition, CCMP and INEOS may in the future own businesses that directly or indirectly compete with us. CCMP and INEOS may also pursue acquisition opportunities that may be complementary to our business and, as a result, those acquisition opportunities may no longer be available to us. See “Certain Relationships and Related Party Transactions” and “Principal Stockholders.”

Changes in credit ratings issued by statistical rating organizations could adversely affect our cost of financing and the market price of the Notes.

Credit rating agencies rate the Notes and our other indebtedness on factors that include our results of operations, actions that we take, their view of the general outlook for our industry and their view of the general outlook for the economy as a whole. Actions taken by the rating agencies can include maintaining, upgrading or downgrading the current rating or placing us on a watch list for possible future downgrading. Downgrading the credit rating of the Notes or our other indebtedness or placing us on a watch list for possible future downgrading could limit our ability to refinance maturing liabilities, access the capital markets to meet liquidity needs, increase our cost of financing and lower the market price or liquidity of the Notes. Credit ratings are not recommendations to purchase, hold or sell the Notes. Additionally, credit ratings may not reflect the potential effect of risks relating to the structure or marketing of the Notes. Any future lowering of our ratings likely would make it more difficult or more expensive for us to obtain additional debt financing. If any credit rating initially assigned to the Notes is subsequently lowered or withdrawn for any reason, you may not be able to resell your Notes at a favorable price or at all.

Many of the covenants in the indenture will not apply if the Notes are rated investment grade by both Moody’s and Standard & Poor’s.

Many of the covenants in the indenture will not apply to us if the Notes are rated investment grade by both Moody’s and Standard & Poor’s, provided at such time no default or event of default has occurred and is continuing. These covenants restrict, among other things, our ability to pay distributions, incur debt and to enter into certain other transactions. There can be no assurance that the Notes will ever be rated investment grade or, if they are rated investment grade, that the Notes will maintain these ratings. Suspension of these covenants would allow us to engage in certain transactions that would not be permitted while these covenants were in force. To the extent the covenants are subsequently reinstated, any such action taken while the covenants were suspended would not result in an event of default under the indenture. See “Description of the Notes—Certain Covenants—Covenant Suspension.”

USE OF PROCEEDS

We intend to use net proceeds from this offering, together with borrowings under the New Term Loan Facility and the New ABL Facility (if any) and the proceeds of the New Senior Unsecured Notes and cash on hand, to (i) repay the Eco Term Facility and any amounts outstanding under the Eco Revolving Facility, (ii) repay the Existing PQ Term Facility and any amounts outstanding under the Existing PQ Revolving Facility and (iii) redeem the 2018 Notes.

The following table summarizes the estimated sources of funds and uses of funds in connection with the Business Combination and associated refinancing. The amounts in the table below are based on estimated amounts outstanding on December 31, 2015. Actual amounts outstanding on the closing date of the Business Combination may differ. You should read the following together with the information included under the headings "Summary—The Business Combination" and "Unaudited Pro Forma Condensed Combined Financial Statements" included elsewhere in this offering memorandum.

Sources of funds (in millions)		Uses of funds (in millions)	
New ABL Facility(1)	$ —	Repay Eco Term Facility	$ 495
New Term Loan Facility(1)	1,200	Repay Existing PQ Term Facility	1,198
Notes offered hereby	500	Redeem 2018 Notes(3)	626
New Senior Unsecured Notes(2)	625	Fees and expenses(4)	64
Cash from balance sheet	57		
Total sources of funds	$2,382	**Total uses of funds**	$2,382

(1) The New Senior Secured Credit Facilities are expected to be comprised of a $1,200 million new term loan facility (the "New Term Loan Facility") consisting of a $900 million U.S. dollar-denominated tranche and a $300 million Euro-denominated tranche, all of which will be outstanding on the closing date of the Business Combination, and a new ABL facility (the "New ABL Facility"), which provides for an aggregate principal amount of $200 million of asset-based loans, subject to borrowing base and other limitations. We are permitted to draw on the New ABL Facility on the closing date of the Business Combination in an aggregate principal amount up to $75 million to finance the Business Combination or for working capital needs. Based on estimated working capital needs as of the closing date of the Business Combination, we expect to have $44 million outstanding on the New ABL Facility at the closing of this offering. We also have the option to add one or more incremental facilities under (i) the agreement governing our New Term Loan Facility in an aggregate amount of up to $200 million plus an unlimited additional amount so long as after giving pro forma effect to the incurrence of such additional amount, we are in compliance with certain leverage ratios and (ii) the agreement governing our New ABL Facility in an aggregate amount of up to $50 million plus an additional amount equal to the excess of the borrowing base over the then existing commitments so long as after giving pro forma effect to the incurrence of such additional amount, we are in compliance with certain leverage ratios. Amounts shown exclude any offering discounts. See "Description of Other Indebtedness—New Senior Secured Credit Facilities."

(2) We expect to issue $625.0 million of unsecured senior notes in a concurrent private placement. See "Description of Other Indebtedness—New Senior Unsecured Notes."

(3) Includes $26 million of premium relating to the redemption of the 2018 Notes. Pursuant to the terms of the indenture governing the 2018 Notes, the 2018 Notes will be redeemed at 104.375% of the aggregate principal amount outstanding, plus accrued and unpaid interest to the date of redemption or otherwise satisfied and discharged as of the closing date of the Business Combination.

(4) Consists of our estimate of fees and expenses associated with the Business Combination, including placement fees, initial purchaser discounts and commissions, arranging fees and other financing fees and other transaction costs and advisory and professional fees.

CAPITALIZATION

The following table sets forth our cash and cash equivalents and our capitalization as of December 31, 2015:

- on an actual basis for PQ Holdings;
- on an actual basis for Eco;
- on a pro forma basis to give effect to the Business Combination; and
- on a pro forma as adjusted basis to give effect to the Business Combination and the associated refinancings, including the issuance of the Notes offered hereby and the application of the net proceeds therefrom as described under "Use of Proceeds."

The following table should be read in conjunction with the "Unaudited Pro Forma Condensed Combined Financial Statements," "Selected Condensed Consolidated Financial Data of PQ Holdings," "Selected Condensed Consolidated Financial Data of Eco," "Management's Discussion and Analysis of Financial Condition and Results of Operations of PQ Holdings," "Management's Discussion and Analysis of Financial Condition and Results of Operations of Eco" and the consolidated financial statements and the notes thereto included elsewhere in this offering memorandum.

	As of December 31, 2015			
	PQ Holdings Actual	Eco Actual	Pro Forma Combined	Pro Forma Combined As Adjusted
	(in millions)			
Cash and cash equivalents	$ 54	$ 25	$ 79	$ 22
Total debt:				
New ABL Facility(1)	$ —	$ —	$ —	$ —
New Term Loan Facility(1)	—	—	—	1,200
Notes offered hereby	—	—	—	500
New Senior Unsecured Notes	—	—	—	625
2022 Notes	—	200	200	200
Existing Eco Term Facility	—	495	495	—
Existing Eco Revolving Facility	—	—	—	—
Existing PQ Term Facility	1,198	—	1,198	—
Existing PQ Revolving Facility	—	—	—	—
2018 Notes	600	—	600	—
Other	23.2	1.2	23.2	24.4
Total debt	1,821.2	696.2	2,516.2	2,549.4
Total shareholders' equity	70	238	308	1,045
Total capitalization	$1,891.2	$934.2	$2,824.2	$3,594.4

(1) The New Senior Secured Credit Facilities are expected to be comprised of a $1,200 million New Term Loan Facility consisting of a $900 million U.S. dollar-denominated tranche and a $300 million Euro-denominated tranche, all of which will be outstanding on the closing date of the Business Combination, and a New ABL Facility, which provides for an aggregate principal amount of $200 million of asset-based loans, subject to borrowing base and other limitations. We are permitted to draw on the New ABL Facility on the closing date of the Business combination in an aggregate principal amount up to $75 million to finance the Business Combination or for working capital needs. Based on estimated working capital needs as of the closing date of the Business Combination, we expect to have $44 million outstanding on the New ABL Facility at the closing of this offering. We also have the option to add one or more incremental facilities under (i) the agreement governing our New Term Loan Facility in an aggregate amount of up to $200 million plus an unlimited additional amount so long as after giving pro forma effect to the incurrence of such additional amount, we are in compliance with certain leverage ratios and (ii) the agreement governing our New ABL Facility in an aggregate amount of up to $50 million plus an additional amount equal to the excess of the borrowing base over the then existing commitments so long as after giving pro forma effect to the incurrence of such additional amount, we are in compliance with certain leverage ratios. Amounts shown exclude any offering discounts. See "Description of Other Indebtedness—New Senior Secured Credit Facilities."

UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL STATEMENTS

The following unaudited pro forma condensed combined financial statements have been derived by applying pro forma adjustments to the historical audited consolidated financial statements of Eco and PQ Holdings included elsewhere in this offering memorandum. The unaudited pro forma condensed combined balance sheet as of December 31, 2015 gives effect to the Business Combination and related financing transactions as if they had occurred on December 31, 2015. The unaudited pro forma condensed combined statement of income for the year ended December 31, 2015 gives effect to the Business Combination and related refinancing transactions as if they occurred on January 1, 2015. We describe the assumptions underlying the pro forma adjustments in the accompanying notes, which should be read in conjunction with these unaudited pro forma condensed combined financial statements.

The unaudited pro forma adjustments are based upon available information and assumptions that are factually supportable and that we believe are reasonable under the circumstances. The unaudited pro forma condensed combined financial statements are presented for informational purposes only. The unaudited pro forma condensed combined financial statements do not represent what our actual consolidated results of operations or the consolidated financial condition would have been had the Business Combination and related refinancing transactions actually occurred on the dates indicated, nor are they necessarily indicative of future consolidated results of operations or consolidated financial condition. The unaudited pro forma condensed combined financial statements should be read in conjunction with the information contained in “Presentation of Financial Information,” “Summary—The Business Combination,” “Selected Consolidated Financial Data of Eco,” “Selected Consolidated Financial Data of PQ Holdings,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations of Eco,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations of PQ Holdings” and the consolidated financial statements and the notes thereto of each of Eco and PQ Holdings included elsewhere in this offering memorandum. All pro forma adjustments and their underlying assumptions are described more fully in the notes to our unaudited pro forma condensed combined financial statements.

The unaudited pro forma adjustments reflecting the Business Combination and related refinancing transactions will be based upon the acquisition method of accounting and upon the assumptions set forth in the notes included in this section. The unaudited pro forma adjustments and allocation of the excess acquisition purchase price over the tangible and intangible net assets acquired to intangible assets and goodwill are preliminary and based on management’s best estimate of the fair value of intangible assets acquired relating to the Business Combination. The final purchase price allocation for the Business Combination is dependent on, among other things, the finalization of asset and liability valuations. As of the date of this offering memorandum, we have not completed the valuation studies necessary to estimate the fair values of the assets acquired and liabilities assumed and the related allocation of the purchase price for the Business Combination. We have allocated the total estimated purchase price for the Business Combination, calculated as described in Note 1 under “Unaudited Pro Forma Condensed Combined Financial Statements” to the assets acquired and liabilities assumed based on preliminary estimates of their fair values. In arriving at the estimated fair market values, the Company has considered many factors, including but not limited to, the appraisals by independent consultants which were based on a preliminary and limited review of the assets to be acquired and the liabilities to be assumed. There are no assurances that the final estimate of fair market values of the acquired assets and assumed liabilities will not be materially different from the estimated fair market values thereof once a more detailed and thorough review of acquired assets and assumed liabilities is performed. The final valuation will be based on the actual net tangible and intangible assets that exist as of the closing date. Final adjustments will change the allocations of purchase price, which will affect the fair value assigned to certain assets acquired and liabilities assumed and will result in a change to the unaudited pro forma condensed combined financial statements, including a change to goodwill. Therefore, the actual adjustments will differ from the pro forma adjustments, and the differences may be material.

UNAUDITED PRO FORMA CONDENSED COMBINED BALANCE SHEET
As of December 31, 2015
(in thousands)

	Eco Services	PQ Holdings, Inc.	Transaction Adjustments	Pro Forma Combined
ASSETS				
Cash and cash equivalents	$ 25,155	$ 53,507	$ (57,098)(1)	$ 21,564
Receivables, net	34,333	117,438	—	151,771
Inventories	10,179	197,093	34,900 (2)	242,172
Prepaid and other current assets	1,858	19,006	—	20,864
Total current assets	71,525	387,044	(22,198)	436,371
Investments in affiliated companies	—	224,480	257,700 (2)	482,180
Property, plant and equipment, net	484,957	569,168	63,400 (2)	1,117,525
Goodwill	311,892	717,460	243,428 (2)	1,272,780
Tradenames	—	104,415	132,562 (2)	236,977
Other intangible assets, net	137,284	219,617	319,538 (2)	676,439
Other long-term assets	5,862	45,900	—	51,762
Total assets	$1,011,520	$2,268,084	$994,430	$4,274,034
LIABILITIES				
Notes payable and current maturities of long-term debt	$ 2,989	$ 14,508	$ (3,339)(1)	$ 14,158
Accounts payable	17,001	104,645	—	121,646
Accrued liabilities	35,518	73,497	—	109,015
Total current liabilities	55,508	192,650	(3,339)	244,819
Long-term debt	671,280	1,789,255	4,131 (1)	2,464,666
Deferred income taxes	—	113,197	256,083 (3)(4)	369,280
Other long-term liabilities	47,061	96,865	—	143,926
Total liabilities	773,849	2,191,967	256,875	3,222,691
EQUITY				
Common stock	—	58	—	58
Additional paid-in capital	245,279	466,476	395,466 (5)	1,107,221
Accumulated deficit	(8,256)	(264,013)	209,200 (5)	(63,069)
Treasury stock	—	(916)	916 (5)	—
Accumulated other comprehensive loss	648	(131,973)	131,973 (5)	648
Total Company equity	237,671	69,632	737,555	1,044,858
Noncontrolling interest		6,485	—	6,485
Total equity	237,671	76,117	737,555	1,051,343
Total liabilities and equity	$1,011,520	$2,268,084	$994,430	$4,274,034

NOTES TO PRO FORMA CONSOLIDATED BALANCE SHEET
(Unaudited)
(dollars in thousands)

Basis of Presentation and Description of Transactions

On August 18, 2015, Eco and PQ Holdings announced a definitive agreement (the "Business Combination Agreement") pursuant to which Eco and PQ Holdings will reorganize under New Holdings. PQ's existing indirect shareholders, affiliates of CCMP, affiliates of INEOS and PQ's management) and Eco's existing indirect equity holders (affiliates of CCMP and Eco's management) will constitute the stockholders of New Holdings immediately following the closing of the Business Combination. The Business Combination will be effected as an equity-for-equity transaction. The completion of the Business Combination is subject to certain closing conditions that are customary for transactions of this type, including regulatory clearance, which has been received. The Business Combination is currently expected to close in the second quarter of 2016. In accordance with U.S. GAAP, Eco is the accounting predecessor to New Holdings, as PQ was acquired by CCMP subsequent to CCMP's acquisition of Eco, therefore Eco is deemed to be the accounting acquirer.

The historical balance sheet data of each of Eco and PQ Holdings as of December 31, 2015 and the historical statement of income data for the year ended December 31, 2015 of each of Eco and PQ Holdings are derived from the audited financial statements included elsewhere in this offering memorandum.

The unaudited pro forma condensed combined financial information does not give effect to the potential impact of current financial conditions, any anticipated synergies, operating efficiencies or cost savings that may result from the above transactions. Further, the unaudited pro forma condensed combined financial information does not include any other transactions since December 31, 2015.

(1) Reflects the pro forma debt financing in connection with the Business Combination. The amounts reflect the issuance of $1,200,000 under the New Term Loan Facility, the issuance of $500,000 of Notes offered hereby, the issuance of $625,000 of the New Senior Unsecured Notes, the repayment of $1,197,950 under the existing PQ Term Facility and $495,000 under the Eco Term Facility and the redemption of the $600,000 2018 Notes. The $70,502 of deferred financing and original issue discount ("OID") represents deferred financing fees on existing Eco debt that was not written off, additional fees associated with the issuance of the new debt, net of the write-off of unamortized deferred financing fees and OID of the debt repaid in connection with the Business Combination. The cash used from the balance sheet as part of the sources and uses of the transaction is $57,098 resulting from the gross proceeds of $2,325,000 less repayments of $2,292,950 of existing debt, $62,848 of deferred financing and OID, and the call premium relating to the 2018 Notes of $26,300. Debt components and the adjustments are detailed below:

	December 31, 2015				
	PQ	Eco	Total	Adjustment	Pro forma
Term Loan Facility	$1,197,950	$495,000	$1,692,950	$(492,950)	$1,200,000
Secured Notes	600,000	—	600,000	(100,000)	500,000
Senior Unsecured Notes	—	200,000	200,000	625,000	825,000
Other	23,158	1,168	24,326	—	24,326
Total debt, including capital lease obligations	1,821,108	696,168	2,517,276	32,050	2,549,326
Deferred financing fees	(4,228)	(19,739)	(23,967)	(16,535)	(40,502)
Original issue discount	(13,117)	(2,160)	(15,277)	(14,723)	(30,000)
Deferred financing fees and OID	(17,345)	(21,899)	(39,244)	(31,258)	(70,502)
Total debt, net of financing fees and OID	1,803,763	674,269	2,478,032	792	2,478,824
Less: current portion	(14,508)	(2,989)	(17,497)	3,339	(14,158)
	$1,789,255	$671,280	$2,460,535	$ 4,131	$2,464,666

NOTES TO PRO FORMA CONSOLIDATED BALANCE SHEET
(Unaudited)
(dollars in thousands)

(2) Represents adjustments to inventory, investments in affiliated companies, property, plant and equipment, net, goodwill, tradenames, and other intangible assets, net based on estimates of their respective fair values as of December 31, 2015.

The following table sets forth the calculation and preliminary allocation of excess purchase price with respect to the Business Combination:

Total estimated purchase price	$ 862,000
The purchase price was allocated as follows:	
Cash and cash equivalents	$ 53,507
Receivables	117,438
Inventories	231,993
Prepaid and other current assets	19,006
Investments in affiliated companies	482,180
Property, plant and equipment	632,568
Goodwill	960,888
Tradenames	236,977
Other intangible assets, net	539,155
Other long-term assets	45,900
Fair value of assets acquired	3,319,612
Revolver, notes payable & current debt	(14,508)
Accounts payable	(104,645)
Accrued liabilities	(73,497)
Long-term debt	(1,789,255)
Deferred income taxes	(372,357)
Other long-term liabilities	(96,865)
Minority interest	(6,485)
Purchase price	$ 862,000

For purposes of preparing the unaudited pro forma condensed combined financial information, the purchase price is allocated to PQ Holdings' assets acquired and liabilities assumed as of December 31, 2015 based on preliminary fair values of assets acquired and liabilities assumed. Final allocation of the purchase price will be based on the actual fair values of assets acquired and liabilities assumed following the completion of the Business Combination. Accordingly, the value of the assets and liabilities included in the table above is preliminary and is subject to change pending additional information that may become known to us. An increased portion of the purchase price allocated to inventory, property, plant and equipment, other assets or liabilities or to identifiable intangible assets will reduce the amount of purchase price allocated to goodwill in the unaudited condensed combined financial information and may result in increased depreciation and/or amortization expense.

(3) Represents the change in deferred taxes of $259,160 associated with the purchase price allocation as of December 31, 2015 using the statutory rates in the applicable jurisdictions. As the Business Combination is an equity-for-equity transaction, the book and tax basis of assets and liabilities may not equal.

(4) Represents an adjustment to deferred tax liability ($3,077) to record the tax provision on Eco to reflect the change in tax status as a partnership to a corporation under PQ Corporation.

NOTES TO PRO FORMA CONSOLIDATED BALANCE SHEET
(Unaudited)
(dollars in thousands)

(5) Total pro forma stockholders' equity consists of the following:

Eco Services equity as of December 31, 2015	$ 237,671
Total estimated purchase price of PQ Holdings	862,000
Pro forma adjustment to the write-off of unamortized deferred financing fees and OID	(31,590)
Pro forma adjustment to expense the call premium on the bonds	(26,300)
Pro forma adjustment to tax provision for Eco Services	3,077
	$1,044,858

The following table sets forth the adjustments to total pro forma stockholder's equity:

	Step-up	Pro forma debt	Pro forma tax	Transaction Adjustments
Common stock	—			—
Additional paid-in capital	395,466			395,466
Accumulated deficit	264,013	(57,890)	3,077	209,200
Treasury stock	916			916
Accumulated other comprehensive loss	131,973			131,973
Total equity	792,368	(57,890)	3,077	737,555

UNAUDITED PRO FORMA CONDENSED COMBINED STATEMENT OF OPERATIONS
For the Twelve months ended December 31, 2015
(in thousands)

	Eco Services Twelve Months Ended December 31, 2015	PQ Twelve Months Ended December 31, 2015	Transaction Adjustments		Pro Forma Combined
Sales	$388,875	$1,024,326	$ —		$1,413,201
Cost of goods sold	282,795	748,756	4,177	(1)(4)	1,035,728
Gross profit	106,080	275,570	(4,177)		377,473
Selling, general and administrative expenses	47,927	107,097	757	(2)	155,781
Other operating expense, net	—	51,516	36,173	(3)(4)	87,689
Operating income	58,153	116,957	(41,107)		134,003
Equity in net income from affiliated companies	—	45,325	(7,539)	(5)	37,786
Interest expense	44,348	108,375	62,699	(6)	215,422
Debt extinguishment costs	—	—	—		—
Other expense (income), net	—	21,383	—		21,383
Income before income taxes and noncontrolling interest	13,805	32,524	(111,345)		(65,016)
Provision for income taxes	—	22,902	(28,631)	(7)	(5,729)
Net income (loss)	13,805	9,622	(82,714)		(59,287)
Less: Net income attributable to the noncontrolling interest	—	1,771	—		1,771
Net income (loss) attributable to the Combined Business	$ 13,805	$ 7,851	$ (82,714)		$ (61,058)

NOTES TO PRO FORMA CONDENSED CONSOLIDATED STATEMENT OF OPERATIONS
(Unaudited)
(dollars in thousands)

(1) Represents the depreciation associated with the step-up of fixed assets of $14,387 for the year ended December 31, 2015.

(2) Represents the depreciation associated with the step-up of fixed assets of $757 for the year ended December 31, 2015.

(3) Represents the amortization on the acquisition accounting adjustments for identifiable intangible assets of $25,963 for the year ended December 31, 2015.

(4) Represents the accounting policy change management anticipates for the combined companies whereby the amortization expense of intangible assets from cost of goods sold in Eco was reclassified to other operating expense of $10,210 for the year ended December 31, 2015.

(5) Represents the amortization associated with acquisition accounting fair value adjustments on the investment in affiliates for the year ended December 31, 2015.

(6) Reflects estimated pro forma cash interest expense resulting from our new capital structure immediately subsequent to the consummation of the Business Combination assuming the New ABL Facility is undrawn. Pro forma cash interest expense assumes a weighted average interest rate for the New Term Loan Facility, New Senior Unsecured Notes, 2022 Notes and Notes offered hereby of approximately 8.2%. For every 0.125% change in the assumed weighted average interest rate for the New Term Loan Facility and the Notes offered hereby, assuming the New ABL Facility is undrawn, pro forma cash interest expense would increase or decrease, as applicable, by $2,281.

	Year End December 31, 2015
Remove interest on existing debt	$(125,382)
Pro forma cash interest expense on new debt	188,938
Remove amortization on existing deferred financing fees and OID	(10,685)
Pro forma amortization of new deferred financing fees and OID	9,829
Pro forma interest adjustment	$ 62,699

(7) Pro forma tax expense adjustment relates to tax implications of all pre-tax pro forma adjustments using the applicable statutory rates.

SELECTED CONSOLIDATED FINANCIAL DATA OF PQ HOLDINGS

The following tables set forth certain selected historical consolidated financial data as of and for the periods indicated for PQ Holdings. The consolidated statement of operations data for the years ended December 31, 2013, 2014 and 2015 and the consolidated balance sheet data as of December 31, 2014 and 2015 was derived from PQ Holding's audited consolidated financial statements included elsewhere in this offering memorandum. The consolidated statement of operations data for the years ended December 31, 2011 and 2012 and the consolidated balance sheet data as of December 31, 2011, 2012 and 2013 was derived from PQ Holding's audited consolidated financial statements not included in this offering memorandum.

The selected historical consolidated financial data set forth does not give pro forma effect to the Business Combination and should be read in conjunction with "Presentation of Financial Information," "Summary—Summary Historical Financial and Other Data," "Use of Proceeds," "Capitalization," "Unaudited Pro Forma Condensed Combined Financial Statements," "Management's Discussion and Analysis of Financial Condition and Results of Operations of PQ Holdings" and PQ Holding's consolidated financial statements and the related notes thereto each of which is included elsewhere in this offering memorandum.

	Year Ended December 31,				
	2011	2012	2013	2014	2015
	(dollars in thousands)				
Statement of operations data:					
Sales	$1,115,017	$1,084,782	$1,085,019	$1,114,904	$1,024,326
Cost of goods sold	825,757	803,159	795,416	818,483	748,756
Gross profit	289,260	281,623	289,603	296,421	275,570
Selling, general and administrative expenses	123,737	112,138	111,229	110,886	107,097
Goodwill impairment charge	65,031	—	—	—	—
Other operating expense, net	56,123	42,261	49,373	71,148	51,516
Operating income	44,369	127,224	129,001	114,387	116,957
Equity in net income from affiliated companies, net	20,875	26,206	53,808	29,359	45,325
Interest expense, net	121,225	111,228	120,347	111,553	108,375
Debt extinguishment costs	2,290	20,063	20,287	2,476	—
Other expense, net	5,446	(3,751)	3,316	23,886	21,383
Income (loss) before income taxes and noncontrolling interest	(63,737)	25,890	38,859	5,831	32,524
Provision for income taxes	(355)	18,918	10,608	7,548	22,902
Net (loss) income	(63,382)	6,972	28,251	(1,717)	9,622
Less: net income attributable to the noncontrolling interest	1,976	1,788	1,521	1,894	1,771
Net income (loss) attributable to PQ Corporation	$ (65,358)	$ 5,184	$ 26,730	$ (3,611)	$ 7,851
Balance sheet data (at end of period):					
Cash and cash equivalents	$ 108,401	$ 124,451	$ 117,749	$ 100,836	$ 53,507
Net working capital (current assets minus current liability minus cash and cash equivalents)	139,439	150,235	153,980	135,247	140,887
Property, plant and equipment, net	488,588	496,242	510,345	546,716	569,168
Total assets	2,331,217	2,333,480	2,379,308	2,310,262	2,268,084
Total liabilities	2,214,510	2,216,117	2,232,422	2,212,714	2,191,967
Total debt, including current portion	1,762,677	1,781,449	1,809,201	1,807,404	1,803,763
Total stockholders' equity	116,707	117,363	146,886	97,548	76,117

	Year Ended December 31,				
	2011	2012	2013	2014	2015
	(dollars in thousands)				
Cash flow data:					
Net cash provided by (used in):					
Operating activities	$ 72,440	$ 84,971	$ 115,898	$ 120,410	$ 98,896
Investing activities	(80,637)	(66,208)	(125,358)	(114,032)	(125,114)
Financing activities	(5,910)	(943)	6,929	(14,787)	(10,379)
Selected supplemental data:					
Adjusted EBITDA(1)	$ 274,646	$ 268,684	$ 306,795	$ 288,101	$ 295,441
Maintenance capital expenditures(2)	45,121	44,147	56,516	63,462	77,362
Expansion capital expenditures(2)	36,751	21,393	24,374	55,693	32,611
Business Sales:					
Performance Chemicals	$ 760,993	$ 734,388	$ 747,127	$ 765,223	$ 685,367
Catalysts	160,988	137,224	199,395	$ 160,723	218,050
Specialty Glass Materials	298,640	310,249	298,844	307,221	291,284
Business Adjusted EBITDA(1):					
Performance Chemicals	$ 182,609	$ 169,434	$ 182,415	$ 195,941	$ 177,890
Catalysts	56,529	51,882	83,953	58,969	73,046
Specialty Glass Materials	52,320	59,863	61,885	56,060	63,463
Total Business Adjusted EBITDA(1)	$ 291,458	$ 281,179	$ 328,253	$ 310,970	$ 314,399

(1) PQ Holdings presents EBITDA and Adjusted EBITDA as supplemental measures of its performance. EBITDA consists of net income (loss) attributable to PQ Holdings Inc. before interest, taxes, depreciation and amortization. Adjusted EBITDA consists of EBITDA adjusted for (i) non-operating income or expense and (ii) the impact of certain non-cash, non-recurring or other items that are included in net income and EBITDA that we do not consider indicative of our ongoing operating performance. See "Non-GAAP Financial Measures."

The following table reconciles net income (loss) attributable to PQ Holdings Inc. to EBITDA and Adjusted EBITDA and Adjusted EBITDA to Total Business Adjusted EBITDA for the periods presented:

	Year Ended December 31,				
	2011	2012	2013	2014	2015
	(dollars in thousands)				
Reconciliation of net income (loss) to Adjusted EBITDA					
Net income (loss) attributable to PQ Holdings, Inc.	$ (65,358)	$ 5,184	$ 26,730	$ (3,611)	$ 7,851
Provision (benefit) for income taxes	(355)	18,918	10,608	7,548	22,902
Interest expense, net	121,225	111,228	120,347	111,553	108,375
Depreciation and amortization(a)	97,867	93,416	89,306	91,342	93,122
EBITDA	$153,379	$228,746	$246,991	$206,832	$232,250
Acquisition accounting fair value adjustment(a)	2,741	2,593	2,387	2,387	2,387
Impairment of long-lived assets(b)	1,999	—	948	—	425
Transaction-related costs(c)	7,917	533	5,594	24,405	10,742
Foreign currency exchange loss (gain)(d)	5,825	(3,843)	3,709	24,269	23,792
Management advisory fees(e)	6,962	7,500	5,000	5,000	5,000
Restructuring, integration and business optimization expenses(f)	5,865	5,644	5,449	4,572	4,496
Equity-based and other non-cash compensation	303	—	1,011	—	3,358
Debt extinguishment costs	2,290	20,063	20,287	2,476	—
Net loss (gain) on asset disposals(g)	2,243	787	653	694	1,548
Joint venture depreciation, amortization and interest(h)	3,234	3,348	6,128	6,941	7,928
Other(i)	10,380	3,313	8,638	10,525	3,515
Adjusted EBITDA	$274,646	$268,684	$306,795	$288,101	$295,441
Unallocated Corporate Expenses	16,812	12,495	21,458	22,869	18,958
Total Business Adjusted EBITDA	$291,458	$281,179	$328,253	$310,970	$314,399

(a) Represents the annual amortization of the net acquisition accounting fair value adjustments associated with the equity affiliate investment in Zeolyst International and consists primarily of intangible assets such as customer relationships and formulations and product technology.

(b) Reflects a $0.4 million non-cash impairment charge on property, plant and equipment at one of our facilities that was closed in 2015 and a $0.9 million non-cash impairment charge on non-operating property, plant and equipment at one of our facilities in 2013.

(c) Relates to transaction costs incurred for completed, pending and abandoned deals.

(d) Reflects the exclusion of the negative or positive transaction gains and losses of foreign currency in the income statement specifically related to the non-permanent intercompany debt denominated in local currency translated to U.S. dollars.

(e) Reflects management sponsor fees from PQ Holdings' existing consulting agreements.

(f) Relates to restructuring and integration costs, including severance costs, costs associated with plant closings and consolidation, relocation or integration costs and other non-recurring business optimization and restructuring charges.

(g) Reflects the gain/loss on any sale or disposal of long-lived assets.

(h) Represents the Catalyst joint ventures depreciation, amortization and interest expense.

(i) Relates primarily to environmental remediation charges of $2.0 million in the year ended December 31, 2015, defined benefit periodic pension cost of $3.2 million in the year ended December 31, 2015, other transaction gains of foreign currency in the income statement of $2.7 million in the year ended December 31, 2015, Sarbanes-Oxley preparation fees of $1.0 million in the year ended December 31, 2015, as well as non-recurring legal-related costs, capital taxes, asset retirement obligation accretion and other expense.

(2) Maintenance capital expenditures include spending on maintenance of business, cost savings initiatives and health, safety and environmental initiatives. Expansion capital expenditures include spending to drive organic sales growth. These capital expenditures represent PQ Holdings' "book" capital expenditures for which it has recorded, but not necessarily paid for the capital expenditures.

SELECTED CONSOLIDATED FINANCIAL DATA OF ECO

The following tables set forth certain selected historical consolidated financial data as of and for the periods indicated for Eco. The consolidated statements of operations data and other financial data for the years ended December 31, 2014 and 2015 and the consolidated balance sheet data as of December 31, 2014 and 2015 were derived from Eco's audited consolidated financial statements included elsewhere in this offering memorandum.

On September 7, 2011, the stock of Rhodia Inc. was acquired by Solvay SA (the "Rhodia Acquisition"). In connection with the Rhodia Acquisition, the acquisition method of accounting was applied and Eco's assets and liabilities were adjusted to fair value on September 7, 2011. As a result of the application of the acquisition method of accounting, Eco's financial statement presentations distinguish between a predecessor period prior to the Rhodia Acquisition and a successor period subsequent to the Rhodia Acquisition ("Predecessor"). The Predecessor applied acquisition accounting and its financial statements reflect a new basis of accounting that is based on the fair value of assets acquired and liabilities assumed as of September 7, 2011. The financial information for the year ended December 31, 2011 in the tables below is presented on a combined basis. We believe that presentation on a combined basis is meaningful as it allows the financial data to be analyzed to comparable subsequent periods.

On December 1, 2014, substantially all of the assets of Solvay USA Inc.'s Eco Services business unit were acquired by Eco Services Operations LLC, an indirect subsidiary of funds controlled by CCMP. In connection with the 2014 Acquisition, the acquisition method of accounting was applied and the assets and liabilities of Eco were adjusted to fair value on December 1, 2014. As a result of the application of the acquisition method of accounting, Eco's financial statement presentations distinguish between a predecessor period prior to the 2014 Acquisition and a successor period subsequent to the 2014 Acquisition. The Successor applied acquisition accounting and its financial statements reflect a new basis of accounting that is based on the fair value of assets acquired and liabilities assumed as of December 1, 2014. The financial information for the year ended December 31, 2014 in the tables below is presented on a combined basis and is not in accordance with U.S. GAAP. The combined basis results were aggregated from the results of the Predecessor and Successor for the related periods. We believe that presentation on a combined basis is meaningful as it allows the financial data to be analyzed to comparable subsequent periods.

The selected historical consolidated financial data set forth do not give pro forma effect to Business Combination or 2014 Acquisition and should be read in conjunction with "Presentation of Financial Information," "Summary—Summary Historical Financial and Other Data," "Use of Proceeds," "Capitalization," "Unaudited Pro Forma Condensed Combined Financial Statements," "Management's Discussion and Analysis of Financial Condition and Results of Operations of Eco" and Eco's consolidated financial statements and the related notes thereto each of which is included elsewhere in this offering memorandum.

	Combined	Predecessor		Combined	Successor
	Fiscal Year Ended December 31,				
	2011	2012	2013	2014	2015
	(dollar amounts in thousands)				
Statements of operations:					
Net sales	$ 415,361	$ 410,369	$ 390,834	$ 397,362	$ 388,875
Cost of sales	(314,242)	(294,754)	(286,371)	(302,347)	(282,795)
Selling, general, and administrative exp.	(43,325)	(52,849)	(45,697)	(63,586)	(47,927)
Provision (credit) for environmental reserve	(1,333)	(768)	1,174	(213)	—
Operating profit	56,461	61,998	57,592	31,642	58,153
Other income	—	13,000	3,266	—	—
Interest expense, net	(156)	(179)	(122)	(8,556)	(44,348)
Income before income tax provision	56,305	74,819	60,736	23,086	13,805
Provision for income taxes	(20,467)	(26,342)	(21,445)	(14,602)	—
Net income	$ 35,838	$ 48,477	$ 39,291	$ 8,484	$ 13,805
Statements of cash flow data:					
Net cash provided by (used in):					
Operating activities	$ 78,009	$ 81,195	$ 84,448	$ 55,763	$ 48,914
Investing activities	(40,613)	(40,980)	(41,703)	(921,199)	(42,690)
Financing activities	(37,396)	(40,215)	(42,745)	888,063	(3,696)
Balance sheet data (at period end):					
Cash and cash equivalents		$ —	$ —	$ 22,627	$ 25,155
Net working capital (deficit)(1)		13,479	10,954	(16,173)	(9,138)
Total assets		756,291	742,046	1,025,094	1,011,520
Total liabilities		214,788	201,831	807,270	773,849
Total debt, including current portion		3,114	1,629	676,656	674,269
Selected supplemental data:					
Maintenance Capital Expenditures	40,021	40,595	41,675	35,582	40,139
Adjusted EBITDA(2)	$ 99,848	$ 110,786	$ 105,499	$ 106,650	$ 116,451

(1) Net working capital is defined as current assets minus current liabilities minus cash and cash equivalents.

(2) Eco presents EBITDA and Adjusted EBITDA as supplemental measures of its performance, EBITDA consists of net income (loss) before income tax expense, interest expense, net, depreciation and amortization, Adjusted EBITDA consists of EBITDA adjusted for certain corporate related cost adjustments, certain cash and non-cash, non-recurring or unusual items and include management's estimates of standalone cost and income. See "Non-GAAP Financial Measures."

The following table reconciles net income to EBITDA and Adjusted EBITDA for the periods presented:

	Combined	Predecessor		Combined	Successor
	Fiscal Year Ended December 31,				
	2011	2012	2013	2014	2015
	(in thousands)				
Reconciliation of net income to Adjusted EBITDA					
Net income	$ 35,838	$ 48,477	$ 39,291	$ 8,484	$ 13,805
Provision for income taxes	20,467	26,342	21,445	14,602	—
Interest expense, net	156	179	122	8,556	44,348
Depreciation and amortization	30,734	38,842	43,495	45,413	35,369
EBITDA	87,195	113,840	104,353	77,055	93,522
Acquisition accounting adjustments(a)	2,149	—	—	3,511	—
Transaction-related costs(b)	—	—	—	15,506	4,241
Restructuring, integration and business optimization expenses(c)	—	—	—	247	4,147
Equity-based and other non-cash compensation	449	552	681	535	2,256
Management advisory fees(d)	—	—	—	42	590
Abatement revenue(e)	(2,981)	(3,281)	(3,966)	(3,093)	—
Hammond bridge reimbursement(f)	—	—	(3,266)	—	—
Customer out-of-period revenue(g)	(1,091)	—	—	—	—
Corporate allocations(h)	21,211	19,630	16,853	12,942	—
One-time sale of SO_2 credits(i)	—	(13,000)	—	—	—
Estimated standalone costs(j)	(10,457)	(10,666)	(10,880)	(9,974)	—
Pro forma bonus adjustment(k)	—	—	—	3,400	—
Plant production—one time(l)	—	—	—	2,200	—
Transition services(m)	—		—	467	4,882
Customer rail car damage accrual(n)	360	360	(1,475)	—	—
Contract adjustments(o)	1,995	1,746	1,933	1,814	—
Pension expense(p)	—	—	—	—	2,903
Loss on disposal of fixed assets(q)	—	—	—	—	3,911
Other(r)	1,018	1,605	1,266	1,998	—
Adjusted EBITDA	$ 99,848	$110,786	$105,499	$106,650	$116,451

(a) Represents the amortization of the inventory step-up associated with acquisition accounting related to the September 7, 2011 Rhodia Acquisition and the 2014 Acquisition.

(b) Relates to 2014 Acquisition costs and other transaction-related costs.

(c) Relates to non-recurring retention and severance costs associated with consolidation, relocation or integration subsequent to the 2014 Acquisition.

(d) Reflects management sponsor fees from Eco's existing consulting agreement. See "Certain Relationships and Related Party Transactions—Consulting Agreements with CCMP and INEOS."

(e) In prior years, Eco installed scrubbers at various plants due to regulatory requirements. Costs related to these scrubbers were being billed and paid by customers as temporary/non-recurring cash flows. Abatement revenue relates to annual amortization of these capital noncash refunds over the contract period.

(f) Represents non-recurring income associated with the reimbursement of costs of relocating plant utilities at Eco's Hammond, Indiana plant following an eminent domain requisitioning of land by the Indiana state government.
(g) Relates to revenue recognized and invoiced in 2011 relating to errors on the natural gas component of a customer's quarterly pricing calculation.
(h) Represents the amount allocated to Eco from Solvay and includes general expense allocations which do not reflect the level of expenditures required to operate the business on a standalone basis following the 2014 Acquisition from Solvay. Eco determined that these costs should be eliminated and replaced with estimated standalone costs as provided in footnote (j) below.
(i) Relates to a one-time sale of excess carbon abatement credits.
(j) Represents Eco's estimate of expenses needed to operate the business on a standalone basis following the 2014 Acquisition, including costs relating to incremental headcount, information technology related costs, legal costs and insurance costs, and replace the corporate cost allocations.
(k) Represents incremental bonus expense paid to former Solvay employees prior to the completion of the 2014 Acquisition.
(l) Represents one-time costs related to the unanticipated plant outage at one of Eco's west coast facilities in November 2014.
(m) Represents costs under a transition services agreement with Solvay which provides certain transition services to Eco by Solvay following the 2014 Acquisition. The transition services agreement ended in 2015.
(n) Represents an accrual for potential rail car damages that was reversed entirely in 2013 as it was no longer required.
(o) Represents contract adjustments related to the following: (1) Eco shares its Baton Rouge, Louisiana plant with Solvay's Aroma operations and Eco has historically provided services, such as waste treatment, supply of sulfuric acid, shared security and logistics under an intercompany agreement; and (2) Eco also supplies acid to Solvay's precipitated Silica manufacturing operations in Chicago Heights, Illinois. These adjustments are based on Eco's estimate of incremental revenue to the business that would have been realized had the intercompany agreements historically been on third-party terms as reflected in the new agreements entered into between Eco and Solvay in connection with the 2014 Acquisition.
(p) Relates to non-cash defined benefit pension cost for the year ended December 31, 2015.
(q) Represents the non-cash loss for the disposal of property, plant and equipment for the year ended December 31, 2015.
(r) Relates to various other non-recurring adjustments, including among other things, expenses related to changes in estimates for identified environmental liabilities, non-recurring legal costs allocated to Eco by Solvay associated with an employee matter, removal of information technology and research and development charges from Solvay that did not continue after the 2014 Acquisition, offset by insurance proceeds associated with flooding at our Baton Rouge, LA plant in 2013, and fringe benefit refunds received related to prior periods.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS OF PQ HOLDINGS

The following discussion and analysis of our financial condition and results of operations covers periods prior to the consummation of the Business Combination. Accordingly, the discussion and analysis of historical periods does not reflect the significant impact the Business Combination will have on PQ's business, including without limitation, the impact of acquisition accounting and debt service requirements as described below. You should read the following discussion of PQ's financial condition and results of operations in conjunction with "Unaudited Pro Forma Condensed Combined Financial Statements," "Selected Consolidated Financial Data of PQ Holdings," "Selected Consolidated Financial Data of Eco," "Management's Discussion and Analysis of Financial Condition and Results of Operations of Eco" and the historical consolidated financial statements of PQ Holdings and Eco and the notes thereto included elsewhere in this offering memorandum. This discussion contains forward-looking statements and actual results may differ materially from those suggested by our forward-looking statements for various reasons, including those discussed in the "Risk Factors" and "Cautionary Disclosure Regarding Forward-Looking Statements" sections of this offering memorandum. We do not have any intention or obligation to update forward-looking statements included in this offering memorandum.

Overview

We are a leading integrated global innovator and manufacturer of specialty inorganic performance chemicals, specialty catalysts and specialty glass materials. We believe we are a leader in each of our businesses, holding what we estimate to be a number one or two supply share position for the year ended December 31, 2015 for greater than 90% of the products we produced, based on volume, in North America, EMEA or Asia, as applicable, where the respective products are sold. Customers use our products as a critical component for a broad range of applications including catalysts to address emissions control in automotive catalytic converters, silica-based additives to enhance teeth whitening performance in toothpaste, silica gels used in beer clarification as well as specialty products used in completion and cementing fluids for oil field applications. We are at the forefront of our industry and continue to develop innovative solutions to meet customers' productivity, environmental and profitability objectives.

We conduct operations through three principal businesses: Performance Chemicals: a fully integrated, global leader in silicate technology, producing sodium silicate, specialty silicas, zeolites, spray dry silicates, magnesium silicate, and other high performance chemical products used in a variety of end-uses such as adsorbents for surface coatings, clarifying agents for beverages, cleaning and personal care products; Catalysts: an integrated silica catalyst and specialty zeolite-based catalyst producer with leading global supply share positions, producing silica catalyst used in the production of HDPE, and specialty zeolite-based catalysts sold to the emissions control industry, the petrochemical industry and other areas of the broader chemicals industry; and Specialty Glass Materials: a leading global producer of engineered glass products for use in highway safety, polymer additives, metal finishing and electronics end-uses, which is comprised of Highway Safety and EGM. Highway Safety manufactures glass beads used for airport, highway and road safety applications to improve visibility in wet and nighttime driving conditions, where EGM produces solid and hollow glass spheres for use as polymer additives and fillers in specialized plastics, as engineered peening beads in metal finishing and as conductives in consumer electronics and other applications. We sell our products to over 4,000 customers across 20 major end-uses globally from our 68 manufacturing facilities, which are strategically located across six continents.

Description of Key Financial Statement Line Items and Key Performance Indicators

Sales

Our Performance Chemicals business sales have grown consistently due to growth in the end-uses in which we operate and new product commercialization. Expansions into new end-uses, as well as gains in our supply positions for existing end-uses, have also added to the growth of our sales. We have historically experienced relatively stable demand both seasonally and throughout economic cycles for our Performance Chemicals business due to our diverse consumer and industrial end-uses. Sales of our Performance Chemicals business are made on both a purchase order basis and pursuant to long-term contracts.

Our Catalysts business sales have grown primarily due to expansion into new end-uses as well as continued gains our supply positions for existing end-uses. Sales of our Catalysts business products are made on both a purchase order basis and pursuant to long-term contracts.

Specialty Glass Materials sales have been driven by the growth of spending on repair, maintenance and upgrade of existing highways and the construction of new highways and roads by governments around the world. Sales of Specialty Glass Materials products are made principally on a purchase order basis. Within the Specialty Glass Materials business, sales to the Transportation Safety sector have historically experienced seasonal fluctuations, particularly in North America and Europe. EGM sales have been driven by the growth in gas and oil exploration, mining emulsions and light manufacturing. Sales of EGM products are made principally on a purchase order basis. There may be modest fluctuations in timing of orders, but orders are mainly driven by the overall economy.

Cost of Goods Sold

Cost of goods sold consists of variable product costs, fixed manufacturing expenses, depreciation expense and freight expenses. Variable product costs include all raw materials, energy and packaging costs that are directly related to the manufacturing process. Fixed manufacturing expenses include all plant employment costs, manufacturing overhead and periodic maintenance costs. The major raw materials that we use include soda ash, sand, ATH, and glass cullet. The primary raw materials used in the manufacture of the Performance Chemicals products are soda ash, industrial sand, ATH and sodium hydroxide. For the years ended December 31, 2015 and December 31, 2014, approximately 45% of our contracts with our largest Performance Chemicals customers in North America include price adjustments for changes in the price of raw materials and natural gas. Under these contracts, there generally is a time lag of three to nine months for price changes to pass-through, depending on the magnitude of the cost change and general industry conditions. The primary raw materials for the Catalysts business are sodium silicate, acids, bases and certain metals. The key raw material for the Specialty Glass Materials business is cullet, or recycled glass. Our primary energy cost in our Performance Chemicals, Catalysts and Specialty Glass Materials businesses is natural gas.

Joint Ventures

We account for our investments in our equity joint ventures under the equity method. Our largest joint venture, Zeolyst International, manufactures high performance specialty zeolite-based catalysts for use in the emissions control industry, the petrochemical industry and other areas of the broader chemicals industry. We share proportionally with our joint venture partners in the management of Zeolyst International and other joint ventures.

Industry

We are an integrated producer of value-added products throughout the silicates supply chain and believe we are a recognized leader in sodium silicate, high performance silicate derivatives, specialty catalysts and engineered glass products. We are a global manufacturer and supplier of our products and have leading supply share positions across our portfolio of products. In addition, we believe our Catalysts business benefits from our proprietary technologies, the sole-sourced supply arrangements we have in place with many of our customers and the favorable trends that support the end-uses our products target.

The catalyst products sold by the Catalyst joint ventures are used by customers in their manufacturing processes, and the effectiveness of certain of the catalysts diminishes with use, requiring them to be replaced based on production rates. The sales of these catalysts, therefore, are largely dependent on the useful life cycle of the catalysts in the manufacturing processes and may vary materially by quarter or by year, creating periodic unevenness in sales and related unevenness in income from equity method investments.

Seasonality

We experience some seasonality, primarily with respect to our Transportation Safety products of our Specialty Glass Materials business. As the road striping season occurs during warmer weather, sales and earnings are primarily generated during the second and third quarters. Working capital is built during the first half of the year, while cash generation occurs primarily in the second half of the fiscal year.

Inflation

Inflationary pressures may have an adverse effect on us, impacting raw material costs and other operating costs, as well as resulting in higher fixed asset replacement costs. We attempt to manage these impacts with cost control, productivity improvements and contractual arrangements, as well as price increases to customers.

Foreign Currency

As a global business, we are subject to the impact of gains and losses on currency translations, which occur when the financial statements of foreign operations are translated into U.S. dollars. We operate a geographically diverse business with approximately 53% and 56% of our sales for the years ended December 31, 2015 and 2014, respectively, coming from our international operations in currencies other than the U.S. dollar. Because consolidated financial results are reported in U.S. dollars, sales or earnings generated in currencies other than the U.S. dollar can result in a significant increase or decrease in the amount of those sales and earnings when translated to U.S. dollars. The foreign currencies to which we have the most significant exchange rate exposure include the Euro, British pound, Canadian dollar, Brazilian real and the Mexican peso.

Impact of the Business Combination

Overview

On August 17, 2015, we entered into the Reorganization Agreement pursuant to which, subject to the terms and conditions set forth therein, we agreed to consummate a series of transactions to reorganize and combine the businesses of PQ and Eco under a new holding company. This Business Combination is more fully described below under "Summary—The Business Combination."

Effects on Our Financial Statements—Acquisition Accounting.

Our financial statements in the future will vary in important respects from the historical consolidated financial statements contained in this offering memorandum. The Business Combination will be accounted for using the acquisition method of accounting. In accordance with U.S. GAAP, Eco is considered the accounting predecessor. See "Unaudited Pro Forma Condensed Combined Financial Statements" and "Selected Consolidated Financial Data of PQ Holdings," "Selected Consolidated Financial Data of Eco" and the accompanying notes included elsewhere in this offering memorandum.

Cost Saving Opportunities

We have identified $21.7 million in synergies and cost savings associated with the Business Combination. We anticipate spending $5.9 million to achieve $4.4 million in annual run-rate cost savings related to Eco's overhead costs by the end of 2017, primarily consisting of consolidation synergies, insurance savings and reductions in Sales, General and Administrative ("SG&A") spending. We intend to (i) invest $7.5 million in manufacturing improvements relating to Eco, which we currently expect to yield $8.1 million in annual run-rate cost savings by the end of 2017 and (ii) invest an additional $16.6 million in PQ's fixed and variable cost programs, which we currently expect to yield $9.2 million in annual run-rate cost savings by the end of 2017.

Results of Operations

Year Ended December 31, 2015 compared to the Year Ended December 31, 2014

Highlights

The following is a summary of our financial performance for the year ended December 31, 2015 compared with the prior year ended December 31, 2014.

- Net sales decreased $90.6 million to $1,024.3 million. The decrease in sales was primarily due to unfavorable foreign currency exchange variations compared to the same period in the prior year ($96.3 million) and to lower volumes in Performance Chemicals and Potters, partially offset by higher average selling price and customer mix improvement. Excluding the unfavorable foreign currency exchange impact, net sales increased $5.7 million, or 0.5%.
- Gross profit decreased $20.8 million to $275.6 million. Our decrease in gross profit was driven primarily by the unfavorable effects of foreign currency translation ($26.0 million). Pricing was strong across nearly all businesses to cover increases in manufacturing costs, depreciation expense and unfavorable product mix. Excluding the unfavorable foreign currency exchange impact, gross profit increased $5.2 million, or 1.8%.
- Operating income increased $2.6 million to $117.0 million. Our operating income increased due to lower selling, general & administrative, or SG&A, expense and a decrease in other operating expenses, partially offset by lower gross profit as described above.
- Equity in net income of affiliated companies, net was $45.3 million, an increase of $15.9 million. The increase was due to higher earnings generated by our Catalyst joint ventures, primarily from greater demand in nearly all product lines, partially offset by various growth related cost increases.

Analysis of Results of Operations

The following data and discussion provides an analysis of certain significant factors affecting our results of operations during the periods included in the accompanying condensed consolidated statement of operations.

	Year ended December 31,		
	2015	2014	2013
	(in millions, except percentages)		
Sales	$1,024.3	$1,114.9	$1,085.0
Cost of goods sold	748.7	818.5	795.4
Gross profit	275.6	296.4	289.6
Gross profit margin	26.9%	26.6%	26.7%
Selling, general and administrative expenses	107.1	110.9	111.2
Other operating expense, net	51.5	71.1	49.4
Operating income	117.0	114.4	129.0
Operating income margin	11.4%	10.3%	11.9%
Equity in net income of affiliated companies, net	45.3	29.4	53.8
Interest expense	108.4	111.6	120.3
Debt extinguishment costs	—	2.5	20.3
Other expense (income), net	21.4	23.9	3.4
Income before income taxes and noncontrolling interest	32.5	5.8	38.8
Provision for income taxes	22.9	7.5	10.6
Effective tax rate	70.4%	129.4%	27.3%
Net income (loss)	9.6	(1.7)	28.2
Less: Net income attributable to the noncontrolling interest	1.8	1.9	1.5
Net income (loss) attributable to PQ Holdings Inc.	$ 7.8	$ (3.6)	$ 26.7

Sales

Sales for the fiscal year ended December 31, 2015 were $1,024.3 million, a decrease of $90.6 million, or 8.1%, compared to sales of $1,114.9 million for the year ended December 31, 2014. The decrease in sales as compared to the same period in the prior year was primarily due to the unfavorable effects of foreign currency translation of $96.3 million and lower volumes of $10.2 million, partially offset by greater average selling price and mix improvements of $15.9 million. Excluding the unfavorable foreign currency exchange impact, net sales increased $5.7 million, or 0.5%.

Performance Chemicals

Sales in the Performance Chemicals business for the year ended December 31, 2015 were $685.4 million, a decrease of $79.8 million, or 10.4%, compared to sales of $765.2 million for the year ended December 31, 2014. The decrease in sales, as compared to the same period in the prior year, was primarily due to the unfavorable effects of foreign currency translation of $76.4 million and decreased volumes of $10.7 million, partially offset by and higher average selling price and mix improvements of $7.3 million. Excluding the unfavorable foreign currency exchange impact, net sales decreased $3.4 million, or 0.4%.

The stronger U.S. dollar compared to a number of other major currencies, including the Brazilian real, Canadian dollar, the Mexican peso, the Euro, the British pound, unfavorably impacted our sales. The lower volume is primarily driven by lower zeolite and magnesium sulfate demand, as well as metasilicate and spray dry sales volumes into the drilling end-uses in the Americas and sodium silicate sales volumes in Europe, partially offset by increased demand for spray dry silicate for use in automatic dishwasher detergents and zeolite sales volumes in Europe. The higher average sales price is principally a result of average selling price increases for higher manufacturing costs under our cost adjusted pass-through contracts in the Americas and favorable U.S. dollar-denominated pricing in certain foreign locations. Lower pricing in Europe from unfavorable product and customer mix, slightly offset this favorable pricing impact.

Silica Catalyst

Sales in the Silica Catalyst business for the year ended December 31, 2015 were $58.2 million, an increase of $4.2 million, or 7.8%, compared to sales of $54.0 million for the year ended December 31, 2014. The increase in sales, as compared to the same period in the prior year, was primarily due to increased volumes of $6.8 million and higher average selling price and mix of $0.7 million, partially offset by unfavorable effects of foreign currency translation of $3.3 million. Excluding the unfavorable foreign currency exchange impact, net sales increased $7.5 million, or 13.9%. The higher volume is primarily driven by strong demand across nearly all of our product lines, primarily in our chemical catalyst product line serving the methyl methacrylate end-uses and the product lines serving the HDPE producers. The higher pricing is due to higher pass-through manufacturing costs in the chemical catalyst product line and to favorable customer mix, partly offset by lower pricing in various other products.

Specialty Glass Materials

Sales in the Specialty Glass Materials business for the year ended December 31, 2015 were $291.3 million, a decrease of $15.9 million, or 5.2%, compared to sales of $307.2 million for the year ended December 31, 2014. The decrease was primarily due to the unfavorable effects of foreign currency translation of $17.5 million and lower volumes of $6.3 million, partially offset by higher average selling price of $7.9 million. Excluding the unfavorable foreign currency exchange impact, net sales increased $1.6 million, or 0.5%.

The stronger U.S. dollar across certain of our major currencies including the Australian dollar, Canadian dollar, the Euro, the British pound, Mexican peso and Japanese yen, unfavorably impacted our sales. The unfavorable sales volume was driven by lower volumes in the EGM division, including the hollowspheres, conductive, metal finishing and spheriglass product lines. Greater demand for other transportation safety division products in most regions partially offset the lower sales. Pricing increased mainly for transportation safety division products in the Americas and in certain EGM division product lines, including hollowspheres and spheriglass. Lower conductive pricing from lower silver pass through costs partially offset the favorable pricing variance in the EGM division.

Cost of Goods Sold

Cost of goods sold for the year ended December 31, 2015 was $748.7 million, a decrease of $69.8 million, or 8.5%, compared with $818.5 million for the year ended December 31, 2014. The decrease in cost of goods sold was primarily due to the effect of foreign currency translation on our costs of $72.5 million and lower volume impact of $12.7 million, partially offset by unfavorable product mix impact of $5.2 million, and increases in manufacturing costs of $2.9 million and depreciation expense of $7.3 million.

Gross Profit

Gross profit for the year ended December 31, 2015 was $275.6 million, a decrease of $20.8 million, or 7.0% compared with $296.4 million for the year ended December 31, 2014. The decrease in gross profit was primarily due to the unfavorable effects of foreign currency translation of $26.0 million, higher manufacturing costs of $2.9 million, higher depreciation expense of $7.3 million, and negative product mix contribution of $3.0 million, partially offset by higher average selling price of $15.9 million and higher volume contribution of $2.5 million. Excluding the unfavorable foreign currency exchange impact, gross profit increased $5.2 million, or 1.8%.

Performance Chemicals

Gross profit for the year ended December 31, 2015 was $173.3 million, a decrease of $23.8 million, or 12.1%, compared with $197.1 million for the year ended December 31, 2014. The decrease in gross profit was due to the unfavorable effects of foreign currency translation of $20.1 million, higher manufacturing costs of $4.4 million, higher depreciation expense of $3.3 million, and lower volumes of $6.2 million, partially offset by higher average selling price of $7.3 million and product mix improvement of $2.9 million. Excluding the unfavorable foreign currency exchange impact, gross profit decreased $3.7 million, or 1.9%.

The higher manufacturing costs were primarily driven by higher U.S. dollar-denominated raw material purchases in foreign entities, inflation costs in the Americas, and higher maintenance and production costs in Europe. These were partially offset by lower natural gas costs and favorable fixed cost absorption from the timing of inventory build in the Americas and Europe. The product mix improvements resulted primarily in Europe from reduced sales of lower margin sodium silicates and increased sales of higher margin spray dry silicates, partially offset from lower sales of higher margin magnesium sulfate, metasilicate and spray dry products in the Americas.

Silica Catalyst

Gross profit for the year ended December 31, 2015 was $19.3 million, a decrease of $4.5 million, or 18.9%, compared with $23.8 million for the year ended December 31, 2014. The decrease in gross profit was due to higher manufacturing costs of $6.3 million, higher depreciation expense of $2.3 million, unfavorable product mix of $0.7 million, and the unfavorable effects of foreign currency translation of $1.2 million, partially offset by higher volumes of $5.3 million and greater average selling price of $0.7 million. Excluding the unfavorable foreign currency exchange impact, gross profit decreased $3.3 million, or 13.9%. The higher manufacturing costs were primarily driven by higher pass through raw material variable costs and additional fixed costs from added expansion capacity and lower fixed cost absorption.

Specialty Glass Materials

Gross profit for the year ended December 31, 2015 was $83.0 million, an increase of $7.5 million, or 9.9%, compared with $75.5 million for the year ended December 31, 2014. The increase in gross profit was due to higher volume contribution of $3.4 million, greater average selling price of $7.9 million, and lower manufacturing costs of $7.8 million, partially offset by unfavorable product mix of $5.2 million, higher depreciation expense of $1.7 million, and the unfavorable effects of foreign currency translation of $4.7 million. Excluding the unfavorable foreign currency exchange impact, gross profit increased $12.2 million, or 16.2%.

The lower manufacturing costs were primarily driven by lower raw material costs including natural gas, silver and cullet, reduced shipping costs, and by favorable fixed cost absorption from inventory build of EGM division products in North America. These were partially offset by higher fixed costs and freight transportation costs in North America. The favorable volume contribution is from higher shipped volumes of transportation safety products across most regions, partially offset by lower EGM volume contribution. The unfavorable product mix resulted primarily from fewer current year sales of higher margin hollowspheres, conductive and other EGM products and from greater current year sales of lower margin cullet.

Selling, General and Administrative Expenses

SG&A expenses for the year ended December 31, 2015 were $107.1 million, a decrease of $3.8 million, or 3.4%, compared with $110.9 million for the year ended December 31, 2014. For the current year, decreases in employee related costs of $7.0 million and other SG&A related costs were partially offset by $3.4 million stock compensation for grants issued in 2015.

Other Operating Expense

Other operating expense for the year ended December 31, 2015 was $51.5 million, a decrease of $19.6 million, or 27.6%, compared with $71.1 million for the year ended December 31, 2014. The change was primarily driven by $13.6 million lower transaction-related costs, mainly due to the absence of the sale related costs incurred in the prior year, $4.0 million other income for the sale of nitrous-oxide gas emissions credits from one of our plants in our Performance Chemicals business, $3.2 million lower environmental costs, and one-time demolition costs of one of our non-operating buildings of $2.3 million in 2014. These were partially offset by $2.9 million increase in severance related costs in 2015 and $0.9 million loss on asset disposals.

Equity in Net Income of Affiliated Companies, Net

Equity in net income of affiliated companies, net for the year ended December 31, 2015 was $45.3 million, an increase of $15.9 million, compared with $29.4 million for the year ended December 31, 2014. The increase was due to higher earnings generated by our Catalyst joint ventures. Favorable demand of hydrocracking, specialty catalyst, and pressure products (primarily due to emission regulations) was partially offset by the impact of lower y-powder volumes and various cost increases. Cost drivers include unfavorable inventory absorption, higher fixed costs and depreciation from expansion, and increased SG&A and research and development expense. Hydrocracking demand was up primarily due to the timing of re-fills as the products used in hydrocracking typically have a three to five year life cycle before they must be replaced.

Interest expense, Net

Interest expense, net for the year ended December 31, 2015 was $108.4 million, a decrease of $3.2 million, compared with $111.6 million for the year ended December 31, 2014. Interest expense decreased primarily due to lower third-party interest expense resulting from our debt repricing in March 2014 and to lower amortization of the interest cap premium in 2015.

Debt Extinguishment Costs

On March 27, 2014, we re-priced our senior secured term loans to lower the applicable interest rate. We repaid all outstanding senior secured term loans in the aggregate amount of $1,222.6 million and issued new senior secured term loans in an aggregate principal amount of $1,222.6 million. As a result of the re-pricing, previous unamortized deferred financing costs of $0.3 million and original issue discount of $2.2 million associated with the old debt were written off in 2014.

Other (Income) Expense

Other expense was $21.4 million for the year ended December 31, 2015, a favorable change of $2.5 million, compared with $23.9 million of expense for the year ended December 31, 2014. Other expense primarily consisted of foreign currency losses of $21.1 million for the year ended December 31, 2015 compared to foreign currency losses of $23.4 million for the year ended December 31, 2014 a favorable change of $2.3 million. The change in foreign currency loss for the year ended December 31, 2015 was driven by a strengthening U.S. dollar on intercompany debt denominated in foreign currencies translated to U.S. dollars. Adding to the favorable change is $0.2 million of lower other expenses.

Provision (Benefit) for Income Taxes

The provision for income taxes for the year ended December 31, 2015 was $22.9 million compared with provision for income taxes of $7.5 million for year ended December 31, 2014. The effective income tax rate for the year ended December 31, 2015 was 70.4% compared to 129.4% for the year ended December 31, 2014. Our effective income tax rate fluctuates based on, among other factors, changes in income mix. The difference between the U.S. federal statutory income tax rate and our effective income tax rate for the year ended December 31, 2015 and 2014 was mainly due to the provision for un-repatriated foreign earnings, the tax effect of repatriating foreign earnings back to the United States as dividends, differences between tax rates in foreign jurisdictions as compared to the U.S. tax rate, withholding taxes, non-deductible transaction costs, and the tax effect of a change in foreign exchange gain/loss recorded in the statement of operations.

Net Income (Loss) Attributable to PQ Holdings Inc.

For the foregoing reasons and after the effect of the non-controlling interest in earnings of subsidiaries for each period presented, net income attributable to PQ Holdings Inc. was $7.8 million for the year ended December 31, 2015 compared with net loss attributable to PQ Holdings Inc. of $3.6 million for the year ended December 31, 2014.

Year Ended December 31, 2014 Compared to the Year Ended December 31, 2013

Highlights

The following is a summary of our financial performance for the year ended December 31, 2014 compared with the prior year ended December 31, 2013.

- Net sales increased $29.9 million to $1,114.9 million. The increase in sales was primarily due to higher sales volumes and greater average selling price and product mix improvement, partially offset by unfavorable foreign currency exchange variations compared to the prior year.
- Gross profit increased $6.8 million to $296.4 million. Our increase in gross profit was driven primarily by increased pricing and customer mix, and higher volumes, partially offset by higher manufacturing costs and depreciation, and unfavorable effects of foreign currency translation.
- Operating income decreased $14.6 million to $114.4 million. Our operating income decreased due to increase in other operating expenses, partially offset by higher gross profit and slightly lower selling, general & administrative, or SG&A, expense.

Analysis of Results of Operations

The following data and discussion provides an analysis of certain significant factors affecting our results of operations during the periods included in the accompanying condensed consolidated statement of operations.

Sales

Sales for the fiscal year ended December 31, 2014 were $1,114.9 million, an increase of $29.9 million, or 2.8%, compared to sales of $1,085.0 million for the year ended December 31, 2013. The increase in sales as compared to the same period in the prior year was primarily due to higher volumes of $38.8 million and greater average selling price and product mix improvements of $6.8 million, partially offset by the unfavorable effects of foreign currency translation of $15.7 million.

Performance Chemicals

Sales in the Performance Chemicals business for the year ended December 31, 2014 were $765.2 million, an increase of $18.1 million, or 2.4 %, compared to sales of $747.1 million for the year ended December 31, 2013. The increase in sales, as compared to the same period in the prior year, was primarily due to increased volumes of $21.5 million and higher average selling price and mix improvements of $9.5 million, partially offset by the unfavorable effects of foreign currency translation of $12.9 million.

The higher volume is primarily driven by greater demand in Performance Chemicals sodium and potassium silicates, magnesium sulfate, and spray dry silicate volumes in the Americas and sodium silicate, magnesium silicate, and specialty silicas volumes in Europe. The higher average sales price is principally a result of average selling price increases for higher manufacturing costs under our cost adjusted pass-through contracts in the Americas and favorable product mix in EMEA & Asia for certain product lines. Unfavorable customer mix in sodium silicate in Performance Chemicals slightly offset this favorable pricing impact. The stronger U.S. dollar compared to a number of other major currencies, including the Canadian dollar, Mexican peso, Brazilian real, and the Australian dollar, unfavorably impacted our sales. This impact is offset partially by a weaker U.S. dollar compared with the Euro and British pound.

Silica Catalyst

Sales in the Silica Catalyst business for the year ended December 31, 2014 were $54.0 million, an increase of $3.1 million, or 6.1 %, compared to sales of $50.9 million for the year ended December 31, 2013. The increase in sales, as compared to the same period in the prior year, was primarily due to increased volumes of $4.0 million and favorable effects of foreign currency translation of $0.4 million, partially offset by lower average selling price and mix of $1.3 million. The higher volume is primarily driven by higher sales across multiple product lines, while the lower average sales price is principally a result of lower strategic pricing.

Specialty Glass Materials

Sales in the Specialty Glass Materials business for the year ended December 31, 2014 were $307.2 million, an increase of $8.4 million, or 2.8 %, compared to sales of $298.8 million for the year ended December 31, 2013. The increase was primarily due to higher volumes of $13.0 million, partially offset by lower average selling price and mix of $1.4 million and the unfavorable effects of foreign currency translation of $3.2 million.

The higher sales volume was driven by stronger demand in the EGM division including the conductive, hollowspheres, spheriglass, and metal finishing product lines. The reduced average selling price was driven primarily from lower silver pass-through pricing in our conductive product line and lower customer mix impact of hollowsphere sales, partially offset from favorable price increases in the transportation safety division in North America. The stronger U.S. dollar across certain of our major currencies including the Canadian dollar, Mexican peso, Australian dollar, and Japanese yen, unfavorably impacted our sales. This impact is offset partially by a weaker U.S. dollar compared with the Euro and British pound.

Cost of Goods Sold

Cost of goods sold for the year ended December 31, 2014 was $818.5 million, an increase of $23.1 million, or 2.9 %, compared with $795.4 million for the year ended December 31, 2013. The increase in cost of goods sold was primarily due higher volume impact of $31.8 million, and increases in manufacturing costs of $11.2 million and depreciation expense of $3.7 million, partially offset by product mix impact of $11.3 million and the effect of foreign currency translation on our costs of $12.3 million.

Gross Profit

Gross profit for the year ended December 31, 2014 was $296.4 million, an increase of $6.8 million, or 2.3 % compared with $289.6 million for the year ended December 31, 2013. The increase in gross profit was primarily due to higher average selling price of $6.8 million, higher volume contribution of $7.0 million, and product mix improvements of $11.3 million, partially offset by higher manufacturing costs of $11.2 million, higher depreciation expense of $3.7 million, and unfavorable effects of foreign currency translation of $3.4 million.

Performance Chemicals

Gross profit for the year ended December 31, 2014 was $197.1 million, an increase of $12.6 million, or 6.8 %, compared with $184.5 million for the year ended December 31, 2013. The increase in gross profit was due to favorable volume contribution of $9.3 million, higher average selling price of $9.5 million and favorable product mix of $1.7 million, partially offset by higher manufacturing costs of $3.4 million, higher depreciation expense of $1.9 million, and the unfavorable effects of foreign currency translation of $2.6 million.

The higher manufacturing costs were primarily driven by higher energy costs, interplant freight costs, and raw material costs in the Performance Chemicals Americas (sand and soda ash), partially offset by lower raw material costs in Performance Chemicals EMEA (caustic and natural gas).

Silica Catalyst

Gross profit for the year ended December 31, 2014 was $23.8 million, a decrease of $0.6 million, or 2.5 %, compared with $24.4 million for the year ended December 31, 2013. The decrease in gross profit was due to lower average selling price of $1.3 million, unfavorable product mix of $1.0 million, higher manufacturing costs of $1.4 million, and higher depreciation expense of $0.2 million, partially offset by favorable volume contribution of $3.0 million and the favorable effects of foreign currency translation of $0.3 million.

Specialty Glass Materials

Gross profit for the year ended December 31, 2014 was $75.5 million, a decrease of $5.2 million, or 6.4 %, compared with $80.7 million for the year ended December 31, 2013. The decrease in gross profit was due to lower volume contribution of $5.3 million, lower average selling price of $1.4 million, higher manufacturing costs of $6.4 million, higher depreciation expense of $1.6 million, and the unfavorable effects of foreign currency translation of $1.1 million, partially offset by product mix improvements of $10.6 million.

The favorable product mix improvements resulted primarily from higher margin hollowsphere and conductive volumes. The higher manufacturing costs were primarily driven by higher fixed costs and transportation costs, as well as higher raw material costs of natural gas and cullet.

Selling, General and Administrative Expenses

SG&A expenses for the year ended December 31, 2014 were $110.9 million, a decrease of $0.3 million, or 0.3%, compared with $111.2 million for the year ended December 31, 2013. SG&A expenses decreased during the year primarily due to decreases in salaries and wages, bonus plan expense, other compensation, and pension plan costs, partially offset by increases in professional fees, employee fringe benefit expense, salesman commissions and other SG&A costs.

Other Operating Expense

Other operating expense for the year ended December 31, 2014 was $71.1 million, an increase of $21.7 million, or 43.9 %, compared with $49.4 million for the year ended December 31, 2013. The change was primarily driven by $18.5 million for transaction costs related to our sale process, increased environmental reserves of $3.1 million, and one- time demolition costs of one of our non-operating buildings at one of our facilities of $1.2 million. These were partially offset from the absence of asset impairment charges in 2014 and other operating income of $0.1 million.

Equity in Net Income of Affiliated Companies, Net

Equity in net income of affiliated companies, net for the year ended December 31, 2014 was $29.4 million, a decrease of $24.4 million, compared with $53.8 million for the year ended December 31, 2013. The decrease was due to lower earnings generated by our Catalyst joint ventures. The decrease was driven primarily by lower demand of hydrocracking as well as pressure products used in the production of caprolactam. In addition, earnings were lower due to higher fixed costs, SG&A and research and development costs, and depreciation expense. Caprolactam demand was driven by certain customers in Asia Pacific countries. Hydrocracking demand was down primarily due to the timing of re-fills as the products used in hydrocracking typically have a three to eight year life cycle before they must be replaced.

Interest Expense, Net

Interest expense, net for the year ended December 31, 2014 was $111.6 million, a decrease of $8.7 million, compared with $120.3 million for the year ended December 31, 2013. Interest expense decreased primarily due to lower third-party interest expense resulting from our debt re-pricing in February 2013 and March 2014.

Debt Extinguishment Costs

On March 27, 2014, we re-priced our senior secured term loans to lower the applicable interest rate. We repaid all outstanding senior secured term loans in the aggregate amount of $1,222.6 million and issued new senior secured term loans in an aggregate principal amount of $1,222.6 million. As a result of the re-pricing, previous unamortized deferred financing costs of $0.3 million and original issue discount of $2.2 million associated with the old debt were written off.

Other (Income) Expense

Other expense was $23.9 million for the year ended December 31, 2014, an unfavorable change of $20.5 million, compared with $3.4 million of expense for the year ended December 31, 2013. Other expense primarily consisted of foreign currency losses of $23.4 million for the year ended December 31, 2014 compared to foreign currency losses of $4.4 million for the year ended December 31, 2013, an unfavorable change of $19.0 million. The change in foreign currency loss for the year ended December 31, 2014 was driven by a strengthening U.S. dollar on intercompany debt denominated in foreign currencies translated to U.S. dollars. Adding to the unfavorable change is $1.1 million of third party debt refinancing costs, the lower mark-to-market gains associated with the assets of our supplemental retirement plan of $0.1 million, and other expenses of $0.3 million.

Provision for Income Taxes

The provision for income taxes for the year ended December 31, 2014 was $7.5 million compared with $10.6 million for the year ended December 31, 2013. The effective income tax rate for the year ended December 31, 2014 was 129.4% compared to 27.3% for the year ended December 31, 2013. Our effective income tax rate fluctuates based on, among other factors, changes in income mix. The difference between the U.S. federal statutory income tax rate and our effective income tax rate for the year ended December 31, 2014 and 2013 was mainly due to differences between tax rates in foreign jurisdictions as compared to the U.S. tax rate, the tax effect of repatriating foreign earnings back to the United States as dividends, non-deductible transaction costs, changes to reserves for uncertain tax positions and changes in valuation allowances against deferred tax assets in certain jurisdictions.

Net Income (Loss) Attributable to PQ Holdings Inc.

For the foregoing reasons and after the effect of the non-controlling interest in earnings of subsidiaries for each period presented, net loss attributable to PQ Holdings Inc. was $3.6 million for the year ended December 31, 2014 compared with net income attributable to PQ Holdings Inc. of $26.7 million for the year ended December 31, 2013.

Historical Financial Condition, Liquidity and Capital Resources

Our primary sources of liquidity consist of cash flow from operations, existing cash balances as well as funds available under the revolving portion of our Existing Senior Secured Credit Facilities. We expect that ongoing requirements for debt service and capital expenditures will be funded from these sources of funds and the New Senior Secured Credit Facilities. Our primary liquidity requirements include funding working capital requirements (primarily inventory and accounts receivable, net of accounts payable and other accrued liabilities), debt service requirements and capital expenditures. Historically, our primary capital expenditures have been for maintenance of business. However, for the year ended December 31, 2015, we spent approximately $77.4 million in maintenance capital expenditures, which include spending on maintenance of business, cost reduction initiatives and health, safety and environmental initiatives, and $32.6 million in expansion capital expenditures, which include spending to drive organic growth.

As of December 31, 2015, our total indebtedness was $1,821.1 million, with up to $144.7 million of available borrowings under our Existing Revolving Credit Facility, after giving effect to $5.3 million of outstanding letters of credit. Our liquidity requirements are significant, primarily due to debt service requirements. Our cash interest expense for the years ended December 31, 2015 and for the year ended December 31, 2014 was approximately $103.1 and $104.9 million, respectively. A one percent change in assumed interest rates for our variable interest New Senior Secured Credit Facilities would have an annual impact of approximately $12.0 million on interest expense.

Cash Flow

	Year ended December 31,		
	2015	2014	2013
	(in millions)		
Net cash provided by (used in)			
Operating activities	$ 98.9	$ 120.4	$ 115.9
Investing activities	(125.1)	(114.0)	(125.4)
Financing activities	(10.4)	(14.8)	6.9
Effect of exchange rate changes on cash and cash equivalents	(10.7)	(8.5)	(4.2)
Net change in cash and cash equivalents	(47.3)	(16.9)	(6.8)
Cash and cash equivalents at beginning of period	100.8	117.7	124.5
Cash and cash equivalents at end of period	$ 53.5	$ 100.8	$ 117.7

	Year ended December 31,		
	2015	2014	2013
	(in millions)		
Working capital changes that provided (used) cash:			
Receivables	$ (4.9)	$(1.8)	$ 2.0
Inventories	(17.5)	(2.3)	(16.7)
Prepaids and other current assets	(2.7)	(2.7)	1.0
Accounts payable	3.3	5.2	6.7
Accrued liabilities	(8.4)	7.6	(0.3)
Other, net	(0.9)	(0.4)	(0.9)
Total	$(31.1)	$ 5.6	$ (8.2)

Year Ended December 31, 2015 Compared to Year Ended December 31, 2014

Net cash provided by operating activities was $98.9 million for the year ended December 31, 2015 compared to $120.4 million during the same period in the year ended December 31, 2014. Cash generated by operating earnings after giving effect to non-cash items recognized in the income statement during the period was higher during the year ended December 31, 2015 by $15.1 million compared to the same period in the prior year. Cash used by working capital during the year ended December 31, 2015 was $36.7 million unfavorable compared to the year ended December 31, 2014. Working capital for the year ended December 31, 2015 used cash of $31.1 million, compared to cash provided of $5.6 million for the year ended December 31, 2014.

The change in cash used by working capital of $36.7 million compared to the prior year was primarily due to unfavorable changes in trade accounts receivable, inventory, accounts payable, and accrued liabilities. The unfavorable inventory change was principally the result of planned year-end inventory build and lower current year hollowsphere product sales in the EGM division for Specialty Glass Materials, higher prior year inventory depletion in Performance Chemicals EMEA & Asia, and from inventory build in Silica Catalyst. The unfavorable change in accounts receivable was due primarily to higher current year sales in Silica Catalyst across multiple products and in the transportation safety products division of Specialty Glass Materials, partly offset by greater prior year sales in Europe for Performance Chemicals. The change in accounts payable was primarily due to the timing of current year payments and reduced levels of current year capital expenditures. The change in accrued liabilities was primarily due to employee compensation and bonus related accruals as well as changes in various other accruals.

Net cash used in investing activities was $125.1 million for the year ended December 31, 2015 compared to $114.0 million during the same period in 2014. The higher cash used in investing activities compared to the prior year period was primarily due to the release of $16.9 million restricted cash related to the 2014 New Market Tax Credit Financing (see "—Off-Balance Sheet Arrangements" for further details) and $12.0 million cash used for an acquisition of certain assets in the Performance Chemicals business, partially offset by lower capital spending of approximately $17.8 million. The decreased capital spending was primarily due to lower 2015 expansion capital expenditures in Specialty Glass Materials and Silica Catalysts.

Net cash used in financing activities was $10.4 million for the year ended December 31, 2015 compared to net cash used of $14.8 million during the same period in 2014. The change in cash from financing activities was primarily driven by a $3.3 million equity contribution and by the absence of debt issuance activity in 2015.

Year Ended December 31, 2014 Compared to Year Ended December 31, 2013

Net cash provided by operating activities was $120.4 million for the year ended December 31, 2014 compared to $115.9 million during the same period in in the year ended December 31, 2013. Cash generated by operating earnings after giving effect to non-cash items recognized in the income statement during the period was lower during the year ended December 31, 2014 by $9.3 million compared to the same period in the prior year.

Cash provided/used by working capital during the year ended December 31, 2014 was $13.8 million favorable compared to the year ended December 31, 2013. Working capital for the year ended December 31, 2014 provided cash of $5.6 million, compared to cash use of $8.2 million for the year ended December 31, 2013.

The change in cash provided/used by working capital of $13.8 million compared to the prior year was primarily due to favorable changes in inventory, accrued liabilities, and other, partially offset by unfavorable changes in prepaids and other current assets, trade accounts receivable, and accounts payable. The favorable inventory change was principally the result of depletion of higher prior year inventory from greater volume sales in the EGM division of Specialty Glass Materials and in Europe for Performance Chemicals. Further, favorable Performance Chemicals inventory change resulted from purchases of raw materials at lower costs in Europe, partially offset from higher inventory in the Americas as compared to prior year and in the Silica Catalyst business from planned inventory build. The unfavorable change in accounts payable was primarily due to lower current year Performance Chemicals raw material pricing in Europe, and from slightly lower current year capital spend as compared to year-end 2013 in the Americas and Europe, partially offset by the increased level of current year capital expenditures and the timing of payments in Specialty Glass Materials. The unfavorable change in accounts receivable was due primarily to greater current year sales across the EGM division of Specialty Glass Materials, and in Europe and North America for Performance Chemicals.

Net cash used in investing activities was $114.0 million for the year ended December 31, 2014 compared to $125.4 million during the same period in 2013. The lower cash used in investing activities compared to the prior year period was primarily due to the change of the $16.9 million of restricted cash and the $15.6 million loan receivable established in 2013, each associated with the New Markets Tax Credit financing arrangement in Specialty Glass Materials (for further discussion on the New Markets Tax Credit, see "—Off-Balance Sheet Arrangements" below). In addition the Company invested $10.0 million in affiliates in 2014 compared to $18.0 million in 2013. These were partially offset by higher capital spending of approximately $47.7 million compared to the same period in 2013. The investment in affiliated companies was made to fund the capital expansion in our Zeolyst C.V. joint venture in both 2013 and 2014. The Company received an offsetting $10.0 million of dividends in 2014 and $18 million in 2013 of dividends from our Zeolyst International joint venture resulting in no overall cash impact to the Company. The increased capital spending was primarily due to greater expansion capital expenditures in Specialty Glass Materials and Silica Catalysts.

Net cash used in financing activities was $14.8 million for the year ended December 31, 2014 compared to net cash provided of $6.9 million during the same period in 2013. The change in cash used by financing activities was primarily driven by the absence of the New Markets Tax Credit financing arrangement in Specialty Glass Materials in 2014, and by the change in debt structure, and related increase in required quarterly debt payments.

Historical Debt

	Year ended December 31,		
	2015	2014	2013
		(in millions)	
Term loan	$1,197.9	$1,210.3	$1,222.6
Revolving credit facility	—	—	—
2018 Notes	600.0	600.0	600.0
Other	23.2	23.2	23.5
Total debt	1,821.1	1,833.5	1,846.1
Original issue discount	(13.1)	(19.9)	(28.5)
Deferred financing costs	(4.2)	(6.1)	(8.4)
Total debt, net	1,803.8	1,807.5	1,809.2
Less: current portion	(14.5)	(14.6)	(14.8)
Total	$1,789.3	$1,792.9	$1,794.4

As of December 31, 2015 our total debt was $1,821.1 million, including $2.2 million of other foreign debt and $21.0 million of notes payable for the New Markets Tax Credit funding (see "—Off-Balance Sheet Arrangements" for details), and excluding the original issue discount of $13.1 million and related deferred financing costs of $4.2 million for our senior secured credit facilities. Our net debt was $1,727.1 million, excluding $2.2 million of other foreign debt, $21.0 million of notes payable, and including cash of $53.5 million. Our total available liquidity as of December 31, 2015 equals $198.2 million, which represents our cash on hand of $53.5 million plus our excess availability under our revolving credit facility of $144.7 million, after giving effect to $5.3 million of outstanding letters of credit.

Existing Senior Secured Credit Facilities

The existing PQ facilities include PQ's term loan of $1,197.9 million outstanding as of December 31, 2015 with a maturity date of August 7, 2017, and the revolving credit facility with a maturity date of May 8, 2017. As of December 31, 2015, there was $144.7 million of revolving credit borrowings available under the revolving credit facility, after giving effect to $5.3 million of outstanding letters of credit.

PQ's existing term loan facility amortizes in equal quarterly installments in an amount equal to 1.00% per annum of the original principal amount thereof, with the remaining balance due at final maturity. PQ's Existing Senior Secured Credit Facility will be repaid in full and all commitments thereunder will be terminated in connection with the Business Combination.

2018 Notes

On November 8, 2012, in connection with the repayment of our former senior secured credit facilities, we closed the issuance of the 2018 Notes. As of December 31, 2015, we had $600.0 million principal amount of 2018 Notes outstanding, which bear interest at a rate of 8.750% and mature on November 1, 2018. The interest on the 2018 Notes is payable semi-annually in arrears on May 1 and November 1.

PQ's obligations under the 2018 Notes are secured by a second priority lien on substantially all of the assets of the issuer and each guarantor, including PQ's capital stock and the capital stock of all direct domestic subsidiaries of the issuer and each guarantor (other than any domestic subsidiary, substantially all of the assets of which constitute the equity of foreign subsidiaries) and 65% of the capital stock of material first-tier foreign subsidiaries and any domestic subsidiary, substantially all of the assets of which constitute the equity of foreign subsidiaries, in each case subject to certain exceptions.

The 2018 Notes will be redeemed in full in connection with the Business Combination.

New Markets Tax Credits Financing

On October 24, 2013, PQ's indirect subsidiary Potters Industries, LLC ("Potters"), entered into a New Markets Tax Credit ("NMTC"), financing arrangement with JPMorgan Chase Bank N.A. and several of its affiliates ("Chase"), and TX CDE V LLC, an affiliate of Texas LIC Development Company LLC d/b/a Texas Community Development Capital ("TX CDE"), whereby Chase agreed to contribute $6.6 million and an additional $15.6 million in funds lent to Chase by Potters Holdings II, L.P. to TX CDE. TX CDE, in turn, lent $21.0 million in the form of $5.4 million and $15.6 million notes (the "Loans"), to Potters, which used the proceeds of the Loans to finance the expansion of Potters' manufacturing facility in Paris, Texas. The $21.0 million was outstanding as of December 31, 2015 and 2014. The capital expenditures associated with the NMTC Agreement were completed in 2014. These Loans are secured by a third lien position behind the New Senior Secured Credit Facilities and the Notes offered hereby.

Capital Expenditures

Maintenance capital expenditures include spending on maintenance of business, cost savings initiatives and health, safety and environmental initiatives. Expansion capital expenditures include spending to drive organic sales growth. These capital expenditures represent our "book" capital expenditures for which the Company has recorded, but not necessarily paid for the capital expenditures.

	Year ended December 31,		
	2015	2014	2013
	(in millions)		
Maintenance capital expenditures	$ 77.4	$ 63.5	$56.5
Expansion capital expenditures	32.6	55.7	24.4
Total capital expenditures	$110.0	$119.2	$80.9

Capital expenditures remained at a level sufficient for required maintenance and certain expansion growth initiatives during these periods. Maintenance capital expenditures are higher for the year ended December 31, 2015 due primarily to the timing of furnace rebuild maintenance capital in the Americas and Europe for Performance Chemicals and additional cost reduction capital across all businesses. Expansion capital expenditures are lower in the year ended December 31, 2015 due to timing of our expansion projects related to our strategic growth initiatives, primarily in our Specialty Glass Materials and Silica Catalysts businesses.

Pension Funding

We paid $4.6 million and $7.0 million in cash contributions into our defined benefit pension plans and other post-retirement plans during the year ended December 31, 2015 and 2014, respectively. The periodic pension cost was $3.6 million and $1.7 million for those same periods, respectively.

As of December 31, 2015, our pension plans and other post-retirement benefit plans were underfunded by $39.8 million and $14.2 million, respectively. In addition, our supplemental retirement plan had a liability of $14.1 million, which is funded by our general assets, including assets held in a Rabbi trust of $5.9 million, or restoration pension plan assets.

Pro Forma for the Business Combination

Following the consummation of the Business Combination, the primary source of liquidity will be cash generated from operations and availability under our Senior Secured Credit Facilities and other lines of credit. Our primary uses of cash will be for working capital, debt service and capital expenditures. Following the consummation of the Business Combination, we will have the following indebtedness outstanding:

Senior Secured Credit Facilities

Our New Senior Secured Credit Facilities will be comprised of a 6.5-year $1,200 million term loan facility consisting of a $900 million U.S. dollar-denominated tranche and a $300 million Euro-denominated tranche, and a 5-year $200 million asset-based revolving credit facility. The New Term Loan Facility will be fully funded at the closing of the Business Combination. We are permitted to draw on the New ABL Facility on the closing date of the Business Combination in an aggregate principal amount up to $75 million to finance the Business Combination or for working capital needs. Based on estimated working capital needs as of the closing date of the Business Combination, we expect to have $44 million outstanding on the New ABL Facility at the closing of this offering. We also have the option to add one or more incremental facilities under (i) the agreement governing our New Term Loan Facility in an aggregate amount of up to $200 million plus an unlimited additional amount so long as after giving pro forma effect to the incurrence of such additional amount, we are in compliance with certain leverage ratios and (ii) the agreement governing our New ABL Facility in an aggregate amount of up to

$50 million plus an additional amount equal to the excess of the borrowing base over the then existing commitments so long as after giving pro forma effect to the incurrence of such additional amount, we are in compliance with certain leverage ratios. The New Senior Secured Credit Facilities will include negative covenants that will, subject to exceptions, limit our ability to incur, assume or permit to exist additional indebtedness (including guarantees thereof); pay dividends or certain other distributions on our capital stock or repurchase our capital stock or prepay subordinated indebtedness; incur liens on assets; make certain investments or other restricted payments; allow to exist certain restrictions on the ability of our restricted subsidiaries to pay dividends or make other payments to us; engage in transactions with affiliates; sell certain assets or merge or consolidate with or into other companies; and alter the business that we conduct. For a more detailed description of the New Senior Secured Credit Facilities, see "Description of Other Indebtedness—New Senior Secured Credit Facilities."

2022 Notes

In October 2014, Eco, as issuer together with Eco Finance Corp., as co-issuer, issued $200.0 million aggregate principal amount of its 8.5% Senior Notes due 2022. The 2022 Notes have a maturity date of November 2022. The 2022 Notes pay interest semi-annually in cash in arrears on May 1 and November 1 of each year. Following the Business Combination, PQ Corporation will assume Eco's and Eco Finance Corp.'s obligations under the 2022 Notes and each entity that guarantees PQ Corporation's obligations under the Term Loan Facility will guarantee the 2022 Notes. See "—Description of Other Indebtedness."

New Senior Unsecured Notes

In connection with the Business Combination, we expect to issue $625 million aggregate principal amount of New Senior Unsecured Notes in a concurrent private placement. The New Senior Unsecured Notes will mature on May 1, 2022; provided that if the 2022 Notes have been refinanced or otherwise repaid prior to such date, the New Senior Unsecured Notes will instead mature on May 2, 2023 and interest on the Notes will be payable quarterly. See "Description of Other Indebtedness—New Senior Unsecured Notes."

Notes Offered Hereby

In connection with the Business Combination, we will issue $500 million aggregate principal amount of the Notes offered hereby. The Notes offered hereby will mature on   , 2022 (a date that will be approximately six and one half years after the date the Notes are issued) and interest on the Notes will be payable semi-annually on   and   of each year. For a more detailed description of the Notes offered hereby, see "Description of the Notes."

We expect that our primary future cash needs will be debt service, funding working capital requirements and capital expenditures. We may also pursue strategic acquisition opportunities, which may impact our future cash requirements. We may, from time to time, increase borrowings under our New ABL Facility to meet our future cash needs. Our ability to make payments on and to refinance our indebtedness will depend on our ability to generate cash in the future. Our management believes that our cash on hand, together with cash from operations and, if required, borrowings under our New ABL Facility, will be sufficient for our cash requirements for at least the next twelve months.

Off—Balance Sheet Arrangements

Industrial Revenue Bond-Financed Tax Abatement

On December 18, 2013, PQ Corporation and our joint venture, Zeolyst International, entered into a real estate tax abatement agreement with the Unified Government of Wyandotte County and Kansas City, Kansas that will utilize an Industrial Revenue Bond financing structure to achieve a 75% real estate tax abatement on the value of the improvements that will be constructed during the expansion of PQ Corporation's and Zeolyst International's facilities at the jointly-operated Kansas City, Kansas plant over a period of ten years.

Contractual Obligations and Commitments

The following table reflects our contractual obligations, commercial commitments and long-term debt obligations as of December 31, 2015 on a pro forma combined basis:

	Payments due for						
	Total	2016	2017	2018	2019	2020	Thereafter
				(in millions)			
Long-term debt(a)	$2,548.2	$ 15.2	$ 13.0	$ 13.0	$ 13.0	$ 13.0	$2,481.0
Interest payments(a)(b)	1,446.4	194.9	194.3	193.4	192.7	191.9	479.2
Operating leases	68.3	17.7	14.3	9.5	6.4	5.3	15.1
Capital leases	1.2	0.2	0.1	0.2	0.2	0.2	0.3
Purchase obligations(c)	13.0	6.1	2.2	1.1	0.8	0.8	2.0
Other obligations(d)	19.9	7.2	1.9	1.7	1.6	1.5	6.0
Total contractual obligations	$4,097.0	$241.3	$225.8	$218.9	$214.7	$212.7	$2,983.6

(a) No prepayment or redemption of any of our long-term debt balances has been assumed. Refer to "—Historical Financial Condition, Liquidity and Capital Resources" and Note 13 in the Notes to Audited Consolidated Financial Statements for information regarding the terms of our long-term debt agreements.

(b) Interest on long-term debt excludes the amortization of deferred financing fees and original issue discount. The pro forma amounts represent minimum interest payments on the New Term Loan Facility, the Notes offered hereby, the New Senior Unsecured Notes and the 2022 Notes. The calculation of the interest is based on a weighted average assumed interest rate of 8.2%. For every 0.125% change in the assumed weighted average interest rate for the New Term Loan Facility, the New Senior Unsecured Notes and the Notes offered hereby and assuming the New ABL Facility is undrawn, pro forma cash interest expense would increase or decrease, as applicable, by $2.3 million.

(c) Purchase obligations include agreements to purchase goods and services that are enforceable and legally binding and that specify all significant terms, including fixed and minimum quantities to be purchased, fixed, minimum or variable provisions, and the approximate timing of the transaction. Purchase obligations exclude agreements that are cancelable without penalty.

(d) Other obligations represent payments related to our pension plans, supplemental retirement plans, other post-retirement benefit plans and the INEOS Group liability for potential multi-year UK tax benefits received. Included in these amounts are expected pension plan contributions of $7.2 million in 2016. Contributions to the pension plan beyond 2016 cannot be reasonably estimated and are not reflected in this table. As of December 31, 2015, our pension plans, supplemental retirement plans and other post-retirement benefit plans were underfunded by $93.3 million.

Critical Accounting Policies

Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Revenue Recognition and Accounts Receivable

Revenue, net of related discounts and allowances, is recognized when both title and risk of loss of the product have been transferred to the customer, the seller's price to the buyer is fixed or determinable, collectability is reasonably assured and persuasive evidence of an arrangement exists. Customers take title and assume all the risks of ownership upon shipment (if terms are "FOB shipping point") or upon delivery (if terms are "FOB destination"). Any deviation from the standard terms and arrangements are reviewed for the proper accounting treatment, and revenue recognition is revised accordingly.

We recognize rebates given to customers as a reduction of revenues based on an allocation of the cost of honoring rebates earned and claimed to each of the underlying revenue transactions that result in progress by the customer toward earning the rebate. Rebates are recognized at the time revenue is recorded. We measure the rebate obligation based on the estimated amount of sales that will result in a rebate at the adjusted sales price per the respective sales agreement.

Amounts billed to a customer in a sale transaction-related to shipping and handling, if any, represent revenues earned for the goods provided and are classified as revenue. Costs related to shipping and handling of products shipped to customers are classified as cost of goods sold.

We make certain assumptions and estimates when accruing for allowances for doubtful accounts. Trade accounts receivable are recorded at the invoiced amount and do not bear interest. The allowance for doubtful accounts is our best estimate of the amount of probable credit losses in its existing accounts receivable. A specific reserve for bad debt is recorded for known or suspected doubtful accounts receivable. For all other accounts, we recognize a reserve for bad debt based on the length of time receivables are past due and historical write-off experience. Account balances are charged off against the allowance when we believe it is probable the receivable will not be recovered. If the financial condition of our customers were to deteriorate, resulting in an impairment of their ability to make payments, additional allowances would be required. We do not have any off-balance sheet credit exposure related to our customers.

Our estimates and assumptions made under the revenue recognition policy have been applied on a consistent basis. The amounts accrued for allowances and returns have not had a material impact on our financial condition or operating performance.

Property, Plant and Equipment, Intangible Assets and Goodwill

Property, plant and equipment are carried at cost and include expenditures for new facilities and major renewals and betterments. We capitalize the cost of furnace rebuilds as part of property, plant and equipment. Plant and equipment under capital leases are carried at the present value of minimum lease payments. Maintenance, repairs and minor renewals are charged to expense as incurred. We capitalize internal costs associated with the implementation of purchased software. When property, plant and equipment is retired or otherwise disposed of, the net carrying amount is eliminated with any gain or loss on disposition recognized in earnings at that time.

Depreciation is generally provided on the straight-line method based on estimated useful lives of the assets, ranging up to thirty-three years for buildings, ten to twelve years for machinery and equipment, and three to seven years for computer hardware and software.

Definite-lived intangible assets are amortized over their estimated useful life. Goodwill and intangible assets with indefinite lives are not amortized, but are tested for impairment annually or more frequently if events occur or circumstances change that would more likely than not reduce the fair value of the reporting unit below its carrying amount. A write-down occurs in periods in which it is determined that a reporting unit's fair value is less than its book value.

When evaluating goodwill for impairment, we can either perform a qualitative assessment or a quantitative assessment on the reporting units. Under a qualitative assessment, we will consider the relevant events and circumstances and the extent to which they could affect the comparison of a reporting unit's fair value to its carrying amount and form a conclusion indicating whether it is more likely than not that the reporting unit's fair value is less than its carrying amount. Under the quantitative assessment, we first compare a reporting unit's book value of net assets, including goodwill, to its fair value. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. To the extent that the book value exceeds fair value, we would be required to perform a second step to measure the amount of the impairment loss. See Note 11 in the Notes to Audited Consolidated Financial Statements for further discussion on goodwill impairment. We had goodwill cushion (which represents the percentage difference between each of our five reporting unit's estimated fair value and its related carrying value) which varied between 38% and 175% as of our annual impairment test on October 1, 2015.

We perform an impairment review of property, plant and equipment and definite-lived intangible assets when facts and circumstances indicate the carrying value may not be recoverable from its undiscounted cash flows. When evaluating long-lived assets for impairment, if the carrying amount of an asset or asset group is found not to be recoverable, then an impairment loss is recognized. Any impairment loss is measured by comparing the carrying amount of the asset to its fair value. Fair value is determined using quoted market prices where available, or other techniques including discounted cash flows. Our estimates of future cash flows involve assumptions concerning future operating performance, economic conditions, and technological changes that may affect the future useful lives of the assets.

The amortization periods for formulations and product technology range from ten to twelve years. We amortize customer relationships over periods that range from nine to twenty years. The amortization period for the non-compete agreements range from five to six and a half years. Amortizable trademarks are amortized over a ten-year period. The amortization periods for the patents range from eight to fourteen years.

Pensions and Postretirement Benefits

We maintain defined benefit pension plans covering certain employees in the United States and Canada as well as certain employees in other international locations. Benefits in the U.S. defined benefit plan and the service portion of the Canadian defined benefit plan were frozen as of December 31, 2006. Benefits for a majority of the plans are based on average final pay and years of service. Our funding policy, consistent with statutory requirements, is based on actuarial computations utilizing the projected unit credit method of calculation. Not all defined benefit pension plans are funded. In the United States and Canada, the pension plans' assets include equity, and fixed income securities. Certain assumptions are made regarding the occurrence of future events affecting pension costs, such as mortality, withdrawal, disablement and retirement, changes in compensation and benefits, and discount rates to reflect the time value of money.

The major elements in determining our pension income and expense are pension liability discount rates and the expected return on plan assets. We reference rates of return on high-quality, fixed income investments when estimating the discount rate, and the expected period over which payments will be made based upon historical experience. The long-term rate of return used to calculate the expected return on plan assets is the average rate of return estimated to be earned on invested funds for providing pension benefits.

In addition to pension benefits, we provide certain health care benefits for employees who meet age, participation and length of service requirements at retirement. These plans were closed to new retirees in the United States and Canada as of December 31, 2006. We use explicit assumptions using the best estimates available of the plan's future experience. Principal actuarial assumptions include discount rates, present value factors, retirement age, participation rates, mortality rates, cost trend rates, Medicare reimbursement rates and per capita claims cost by age. Current interest rates, as of the measurement date, are used for discount rates in present value calculations.

Income Taxes

We operate within multiple tax jurisdictions and are subject to tax filing requirements and audit within these jurisdictions. We use the asset and liability method in accounting for income taxes. Deferred tax assets and liabilities are recorded for temporary differences between the tax basis of assets and liabilities and their reported amounts in the financial statements, using statutory tax rates in effect for the year in which the differences are expected to reverse. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in the results of operations in the period that includes the enactment date. A valuation allowance is recorded to reduce the carrying amounts of deferred tax assets unless it is more likely than not that those assets will be realized.

In determining the provision for income taxes, we provide deferred income taxes on income from foreign subsidiaries whose earnings are deemed by us not to be permanently reinvested as such earnings are taxable upon remittance to the United States. We establish contingent liabilities for possible assessments by taxing authorities resulting from uncertain tax positions including, but not limited to, transfer pricing, deductibility of certain expenses and other state, local, and foreign tax matters. We recognize a financial statement benefit for positions taken for tax return purposes when it will be more-likely-than-not that the positions will be sustained. We recognize potential accrued interest and penalties related to unrecognized tax benefits in income tax expense. Tax examinations are often complex as tax authorities may disagree with the treatment of items reported by us and may require several years to resolve. These accrued liabilities represent a provision for taxes that are reasonably expected to be incurred on the basis of available information but which are not certain.

Contingent Liabilities

Certain conditions may exist as of the date the financial statements are issued, which may result in a loss to us but which will only be resolved when one or more future events occur or fail to occur. Our management and legal counsel assess such contingent liabilities, and such assessment inherently involves an exercise of judgment. In assessing loss contingencies related to legal proceedings that are pending against us or unasserted claims that may result in such proceedings, our legal counsel evaluates the perceived merits of any legal proceedings or unasserted claims as well as the perceived merits of the amount of relief sought or expected to be sought therein. If the assessment of a contingency indicates that it is probable that a loss has been incurred and the amount of the liability can be estimated, then the estimated liability is accrued in our financial statements. If the assessment indicates that a loss contingency is not probable, but is reasonably possible, or is probable but cannot be estimated, then the nature of the contingent liability, together with an estimate of the range of possible loss if determinable and material, would be disclosed. Loss contingencies considered remote are generally not disclosed unless they involve guarantees, in which case the nature of the guarantee would be disclosed, including the approximate term, how the guarantee arose, and the events or circumstances that would require the guarantor to perform under the guarantee.

Quantitative and Qualitative Disclosures About Market Risk

Our major market risk exposure is potential losses arising from changing rates and prices regarding foreign currency exchange rate risk, interest rate risk, commodity price risk and credit risk. The audit committee of our board of directors regularly reviews foreign exchange, interest rate and commodity hedging activity and monitors compliance with our hedging policy. We do not use financial instruments for speculative purposes and we limit our hedging activity to the underlying economic exposure.

Foreign Exchange Risk

Our financial results are subject to the impact of gains and losses on currency translations, which occur when the financial statements of foreign operations are translated into U.S. dollars. We operate a geographically diverse business with approximately 53% of our sales during the year ended December 31, 2015, coming from our international operations in currencies other than the U.S. dollar. Because consolidated financial results are reported in U.S. dollars, sales or earnings generated in currencies other than the U.S. dollar can result in a significant increase or decrease in the amount of those sales and earnings when translated to U.S. dollars. The financial statements of our operations outside the United States, where the local currency is considered to be the functional currency, are translated into U.S. dollars using the exchange rate in effect at each balance sheet date for assets and liabilities and the average exchange rate for each period for sales, expenses, gains, losses and cash flows. The exchange rates between these currencies and the U.S. dollar in recent years have fluctuated significantly and may continue to do so in the future. The foreign currencies to which we have the most significant exchange rate exposure include the Euro, British pound, Canadian dollar, Brazilian real and the Mexican peso. Sales in these top five currencies represent approximately 42% of our total sales during the year ended December 31, 2015. A 10% change in these currencies would impact sales by approximately $43.1 million, or 4% of consolidated sales assuming product pricing remain constant. The effect of translating foreign subsidiaries' balance sheets into U.S. dollars is included in other comprehensive income. The impact of gains and losses on transactions denominated in currencies other than the functional currency of the relevant operations are included in other non-operating expense. Income and expense items are translated at average exchange rates during the year. Net foreign exchange included in other expense was a $21.1million loss, and a $23.4 million loss, for the years ended December 31, 2015, and 2014, respectively. The foreign currency loss realized in the years ended December 31, 2015 and 2014 were primarily driven by the non-permanent intercompany debt denominated in local currency translated to U.S. dollars and were principally non-cash in nature.

Interest Rate Risk

We are exposed to fluctuations in interest rates on our New Senior Secured Credit Facilities and New Senior Unsecured Notes. Changes in interest rates will not affect the market value of such debt but will affect the amount of our interest payments over the term of the loans. Likewise, an increase in interest rates could have a material impact on our cash flow. As of December 31, 2015 on a pro forma basis for the Business Combination and related financing transactions, a 100 basis point increase in interest rates on our New Term Loan Facility and New Senior Unsecured Notes would have an estimated impact on pre-tax earnings of approximately $18.3 million absent any interest rate cap.

We hedge the interest rate fluctuations on debt obligations through interest rate cap agreements. We record the fair value of these hedges as assets or liabilities and the related unrealized gains or losses are deferred in stockholders' equity as a component of other comprehensive income (loss), net of tax. The interest rate caps had a fair value asset of $0.0 million and $0.1 million at December 31, 2015 and 2014, respectively. Fair value is determined based on estimated amounts that would be received or paid to terminate the contracts at the reporting date based on quoted market prices.

Commodity Risk

We purchase significant amounts of natural gas to supply the energy required in our production processes for our products in each of our businesses. Since we are a producer of inorganic chemicals, natural gas provides an energy source for us but is not a direct feedstock of our products. Therefore, exposure to the volatility in energy prices is less than that of producers of organic petrochemicals. We purchase approximately 12 million mmbtu's of natural gas in a given year. Thus, a $1 increase in the cost of natural gas would impact our cost of goods sold by approximately $12 million absent hedging. Our purchase agreements with our customers typically provide for the pass through of natural gas price increases; however, there is no guarantee that we will continue to be able to pass through future price increases without loss of existing customers. We have implemented a hedging program in the United States which allows us to mitigate exposure to natural gas volatility with natural gas swap agreements. We also make forward purchases of natural gas in regard to our production at certain other subsidiary locations.

The natural gas swap agreements had a fair value net liability of $3.9 million at December 31, 2015 and a fair value net liability of $4.2 million at December 31, 2014. Fair value is determined based on estimated amounts that would be received or paid to terminate the contracts at the reporting date based on quoted market prices of comparable contracts. The respective current and non-current liabilities are recorded in accrued liabilities and other long-term liabilities. The related unrealized gains or losses are recorded in stockholders' equity as a component of other comprehensive income (loss), net of tax. Realized gains and losses on natural gas hedges are included in production cost and subsequently charged to cost of goods sold in the Consolidated Statements of Operations in the period in which inventory is sold.

Credit Risk

We are exposed to credit risk on financial instruments to the extent our counterparty fails to perform certain duties as required under the provisions of an agreement. We only transact with counterparties having an appropriate credit rating for the risk involved. Credit exposure is managed through credit approval and monitoring procedures.

Concentration of credit risk can result primarily from trade receivables, for example, with certain customers operating in the same industry or customer groups located in the same geographic region. Credit risk related to these types of receivables is managed through credit approval and monitoring procedures. In the year ended December 31, 2015, we wrote off $0.2 million, or .02%, in bad debt on total sales of $1,024.3 million.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS OF ECO

The following discussion and analysis of Eco's, and its predecessor, Eco Services, a business unit of Solvay, financial condition and results of operations covers periods prior to the consummation of the Business Combination and the 2014 Acquisition. Accordingly, the discussion and analysis of historical periods does not reflect the significant impact the 2014 Acquisition, had on Eco, or the significant impact that the Business Combination will have on Eco, in each case including without limitation, increased leverage, the impact of acquisition accounting and debt service requirements as described below. Prior to the 2014 Acquisition, Eco Services did not historically operate as a stand-alone business, but instead as a business unit of Solvay. As a result, the predecessor financial information may not reflect what its results of operations, financial condition and cash flows would have been had Eco operated as a separate, stand-alone company for all of the periods presented. You should read the following discussion of Eco's financial condition and results of operations in conjunction with "Unaudited Pro Forma Condensed Combined Financial Statements," "Selected Consolidated Financial Data of Eco," "Selected Consolidated Financial Data of PQ Holdings," "Management's Discussion and Analysis of Financial Condition and Results of Operations of PQ Holdings" and the historical consolidated financial statements of PQ Holdings' and Eco and its predecessor, Eco Services, a business unit of Solvay, and the notes thereto included elsewhere in this offering memorandum. This discussion contains forward-looking statements and actual results may differ materially from those suggested by its forward-looking statements for various reasons, including those discussed in "Risk Factors" and "Cautionary Disclosure Regarding Forward-Looking Statements" sections of this offering memorandum.

General

Eco is the leading producer of sulfuric acid for the merchant sales in the United States. Sulfuric acid is the largest chemical product produced in the United States by volume, with an operating history dating to the 1880s. Eco holds the number one U.S. supply share position in both sulfuric acid regeneration and the production of virgin sulfuric acid for merchant sales. Sulfuric acid regeneration is the process of recycling spent sulfuric acid into fresh sulfuric acid for continuous supply to the oil refining industry, which uses sulfuric acid in the production of alkylates for gasoline blending. Virgin sulfuric acid is created by manufacturing sulfuric acid products from sulfur and other raw materials. It is used for supply to a wide range of industrial end-users in the U.S. including the nylon, mining, general industrial and chemicals industries.

Organization and Transactions

Reorganization

On August 18, 2015, PQ and Eco announced the Business Combination under a newly formed holding company, the Combined Company. The Combined Company will retain the PQ Corporation name.

PQ's existing indirect shareholders (affiliates of CCMP), affiliates of INEOS and PQ's management) and our existing indirect equity holders (affiliates of CCMP and management) will constitute the shareholders of the Combined Company immediately following the closing of the Business Combination. The Business Combination will not constitute a change in control under the Eco Term Facility and the 2022 Notes (as further described below), as CCMP will control the majority of the outstanding equity of the Combined Company after the Business Combination. See "Summary—The Business Combination."

The 2014 Acquisition

On July 30, 2014, Eco entered into an Asset Purchase Agreement with Solvay (the "Asset Purchase Agreement"), which provided for the sale, transfer and assignment by Solvay, and the acquisition, acceptance and assumption by Eco, of substantially all of the assets of Solvay's Eco Services business unit for Solvay's sulfuric acid virgin production and regeneration business operations in the United States (the "2014 Acquisition"), which constitutes the business of Eco following the 2014 Acquisition.

The 2014 Acquisition closed on December 1, 2014 (the "Closing Date"). The purchase price for the Eco Services business was $890.0 million in cash, subject to adjustment for certain items, including the actual level of working capital at the closing of the 2014 Acquisition, and a defined contribution plan adjustment. The working capital and defined contribution plan adjustments to the purchase price resulted in a reduction to the purchase price of $8.5 million to $881.5 million, which Eco has settled with Solvay.

The 2014 Acquisition and related transactions were funded with the proceeds of the following transactions:

Existing Eco Senior Secured Credit Facilities

Concurrently with the consummation of the 2014 Acquisition, Eco entered into a $500.0 million seven-year term loan facility, all of which was drawn on the Closing Date, and a $55.0 million five-year revolving credit facility (the "Existing Eco Senior Secured Credit Facilities"). The full amount of the $500.0 million term loan facility net of a $2.5 million discount was drawn on the Closing Date to finance a portion of the 2014 Acquisition, including the payment of related fees, expenses and other costs of the transactions.

As of December 31, 2015, there was no balance outstanding on the revolving credit facility. A portion of the revolving credit facility not to exceed $25.0 million is also available for the issuance of letters of credit. As of December 31, 2015, Eco issued letters of credit totaling $13.3 million.

All outstanding revolving loans under the Existing Eco Senior Secured Credit Facilities are due and payable in full upon the expiration of its seven-year term. In the case of the term loans, Eco is required to make scheduled quarterly payments equal to 0.25% of the original principal amount of the $500.0 million term loans, with the balance due on the seventh anniversary of the Closing Date. $5.0 million of principal payments have been made to date by Eco as of December 31, 2015. The Existing Eco Senior Secured Credit Facilities will be repaid and terminated in connection with the Business Combination.

2022 Notes

Eco issued $200.0 million in aggregate principal amount of its 2022 Notes under an indenture dated October 24, 2014 (the "2022 Notes Indenture"). Interest on the 2022 Notes is payable in cash semi-annually in arrears on each May 1 and November 1, commencing on May 1, 2015. The 2022 Notes will mature on November 1, 2022. The 2022 Notes will remain outstanding following the consummation of the Business Combination. See "Description of Other Indebtedness."

Equity Investment

In connection with the 2014 Acquisition, affiliates of CCMP contributed $230.0 million in cash and members of its board of managers and management contributed $9.9 million in cash. These funds were invested directly or indirectly in Eco Services Group Holdings LLC ("Group Holdings"). Group Holdings contributed the proceeds to its wholly owned subsidiary, Eco Services Intermediate Holdings LLC ("Intermediate Holdings"). Intermediate Holdings in turn contributed the proceeds to its wholly owned subsidiary, Eco.

During the year ended December 31, 2015, certain investors, members of its board of managers and management contributed an additional $3.1 million to Group Holdings, which was contributed to Intermediate Holdings. Intermediate Holdings then contributed these proceeds to Eco.

Transition Services Agreement

Concurrently with the consummation of the 2014 Acquisition, Eco entered into a transition services agreement with Solvay (the "Transition Services Agreement"), which provides certain transition services to Eco by Solvay and from Eco to Solvay. The services include the provision of information technology services, certain workspace related services, cost accounting services and consulting services, among others. The Transition Services Agreement provides for a term of three months to one year from the Closing Date for the provision of services thereunder, depending upon the service to be provided. Eco incurred $4.9 million of fees for the transaction services provided pursuant to the Transition Services Agreement for the year ended December 31, 2015. The Transition Services Agreement was terminated as of December 31, 2015.

Cross-Services Agreement

In connection with the 2014 Acquisition, Eco entered into a Cross-Services Agreement (the "CSA") with Aroma Performance, a Solvay business unit ("Aroma"), on July 28, 2014. The CSA pertains to Eco's Baton Rouge, LA site. In connection with the CSA, Eco has agreed to continue to provide certain services that Eco has historically provided to Aroma when Eco operated as a component of Solvay, including its well water and process steam requirements. The CSA provides for an initial term of five years. Further, Eco has also agreed to provide Aroma with the use of space, operating machinery, and handling of chemicals on the site. Aroma has agreed to provide Eco with nitrogen for a period of twelve months at a price equal to pass-through supplier costs as well as electricity and certain emergency response services.

Silica Sales Agreement

In connection with the 2014 Acquisition, Eco entered into an agreement (the "Silica Sales Agreement") with Solvay's Silica business unit ("Silica") pursuant to which Eco has agreed to provide Silica with sulfuric acid produced at Eco's Hammond, IN plant for a term of five years, renewing automatically for one year terms thereafter. Eco historically provided sulfuric acid to Silica when Eco operated as a component of Solvay.

Effects of the 2014 Acquisition on Eco's Financial Statements

Acquisition Accounting

Eco's consolidated financial statements for the period subsequent to the 2014 Acquisition vary in important respects from the financial statements prior to that date. Eco accounted for the 2014 Acquisition using the acquisition method of accounting. As a result, the purchase price of $881.5 million was allocated to the assets acquired and liabilities assumed based upon their respective fair values. The excess of the purchase price over these allocations was assigned to goodwill, which is subject to testing for impairment at least annually. The allocation of the purchase price to the assets acquired in the 2014 Acquisition resulted in an increase in amortization relating to Eco's acquired definite lived intangible assets because Eco recorded the fair value of the acquired intangible assets. Eco amortizes the acquired intangible assets over their estimated useful lives ranging from five to fifteen years.

Increased Leverage

As of December 31, 2015 and 2014, Eco had $695.0 million and $700.0 million, respectively, of gross outstanding total indebtedness from the Existing Eco Senior Secured Credit Facilities and 2022 Notes ($673.1 million and $675.3 million, respectively, net of debt discount and debt issuance costs), respectively. As a result of the 2014 Acquisition, Eco has a substantial amount of leverage and its financing expense increased significantly following the consummation of the 2014 Acquisition.

Stand-alone Company

Prior to the 2014 Acquisition, Eco operated as a component of Solvay and not as a stand-alone company. The consolidated financial statements as of December 31, 2015 and 2014 reflect the financial position and results of operations for the year ended December 31, 2015 and the period from inception (July 30, 2014) to December 31, 2014 of Eco and its wholly-owned subsidiary, Eco Finance Corp. on a stand-alone basis (the "Successor Financial Statements"). The Company had no operations prior to the 2014 Acquisition. The post-2014 Acquisition consolidated financial statements reflect a new basis of accounting incorporating fair value adjustments made in applying the acquisition method of accounting.

Prior to December 1, 2014, the financial statements of Eco included herein reflect amounts that have been "carved out" from the accounting records of Solvay using assumptions and allocations made by Solvay to depict Eco's operations on a carve-out basis (the "Predecessor Financial Statements"). The Predecessor Financial Statements may not reflect what Eco's results of operations, financial position and cash flows would have been had Eco operated as a separate, stand-alone company without the shared resources of Solvay for the periods presented and may not be indicative of Eco's future results of operations, financial position and cash flows. Additionally, Eco historically provided services to other business components of Solvay. In connection with the 2014 Acquisition, Eco entered into agreements to continue to provide these services on third-party terms as described above. Eco believes the assumptions and methodologies underlying the Predecessor Financial Statements are reasonable.

For comparison to prior periods, Eco has included the Successor's results of operations for the period from inception (July 30, 2014) to December 31, 2014, and the Predecessor's results of operations for the period from January 1, 2014 to November 30, 2014. However, the combined results for these two periods may not reflect what Eco's results of operations, financial position and cash flows would have been had Eco operated as a separate, stand- alone company for the combination of these periods.

Factors and Trends Affecting Results

Demand

Sulfuric acid is a core input for a diverse range of industries including the production of fertilizers, petroleum products, detergents, dyes, insecticides, drugs, plastics, steel, storage batteries, nylon and many other materials. Eco's principal customers include those in the oil refining, mining, nylon production, general industrial and chemical, and agricultural industries. While economic trends may impact any particular source of end-use demand, the broad utility of sulfuric acid tends to significantly insulate sulfuric acid manufacturers from volatility in volumes and Eco believes the overall outlook for sulfuric acid volumes over the next five years is positive.

Sulfuric Acid Regeneration

In regeneration, Eco's volumes are supported by a stable base of large refinery customers. Overall, a variety of countervailing trends are expected to influence volume demand in the medium term (approximately one to seven years) including projected increases to gasoline exporting and higher alkylate production due to an increase in alkylate feedstock supply arising from increased domestic production of shale gas and shale oil. In some periods, Eco expects lower volume requirements from specific customers due to periodic major plant turnarounds.

Gasoline Demand

Total domestic gasoline production has grown 5.2% in the U.S. from 2010 to 2015, driven primarily by rising gasoline exports as well as rising vehicle miles traveled domestically. Eco expects growing petroleum exports to continue to offset softening domestic demand growth. However, in 2015, lower crude oil prices and the resulting lower gasoline prices have contributed to a 3.3% year over year increase in domestic gasoline consumption.

The United States Energy Information Administration (the "EIA") projects net exports of petroleum products to grow at a 2.3% CAGR from 2013 to 2040. The export market for U.S. refineries has become more favorable due to competitively priced oil supplies and the related idling of uncompetitive European based refining capacity. The largest exporters tend to be Gulf Coast refineries, accessing markets such as Brazil and Argentina for gasoline, and Europe for distillate. Due to Eco's leading Gulf Coast supply share position, Eco expects to benefit from gasoline production in the Gulf Coast directed at export markets.

Alkylate Demand

While increased fuel efficiency in vehicles tends to decrease gasoline demand, it also tends to increase the relative contribution of alkylates in gasoline refining, increasing sulfuric acid demand. Increasing regulatory standards, such as the Corporate Average Fuel Economy ("CAFE") standards which regulate mile per gallon performance in light vehicle manufacturing, have resulted in a proliferation of turbo-charged and other engine types that require higher octane fuel ratings. Increasing the octane rating of gasoline requires the use of blending agents, among which alkylate is preferred due to its effectiveness and lower emissions.

While increased fuel efficiency in vehicles tends to decrease gasoline demand, it also tends to increase the relative contribution of alkylates in gasoline refining, increasing sulfuric acid demand. Increasing regulatory standards, such as the Corporate Average Fuel Economy standards which regulate mile per gallon performance in light vehicle manufacturing, have resulted in a proliferation of turbo-charged and other engine types that require higher-octane fuel ratings. Increasing the octane rating of gasoline requires the use of blending agents, among which alkylate is preferred due to effectiveness and lower emissions. In March 2016, the EIA reported that premium gasoline sales as a percentage of overall gasoline sales in 2015 had risen 11.3% up from 7.8% in 2008. The EIA concluded that the increase was likely due to the higher-octane requirements of new light duty vehicles.

The EPA's Tier 3 Vehicle Emission and Fuel Standards Program prescribes new proposed sulfur regulations which will take effect in 2017. The regulations will stipulate lower allowable sulfur content in gasoline, from the current standard of 30 parts per million ("ppm") to a proposed limit of 10 ppm throughout the United States, with the exception of California which already has a 10 ppm sulfur limit. These regulations will require refineries to remove more sulfur from hydrocracked gasoline, which causes a lowering of the octane rating of that gasoline. To raise the octane rating, alkylate is expected to be an attractive blending component since its typical sulfur content is around 5 ppm. Butane, another widely used octane enhancer, typically has higher sulfur content and much higher vapor pressure than alkylate. Higher demand for alkylate production is expected to result in increased demand for sulfuric acid by oil refineries.

The growth in shale-oil derived crude production in the United States is projected to continue to benefit the refining industry. According to OPEC, tight oil production in the United States will increase 26% from 2014 levels to four million barrels per day by 2020. The lighter crude oil produced from shale generates lower octane gasoline, which can demand more alkylate in order to boost octane to required levels.

Another trend being observed currently is the proliferation of gasses such as isobutane and propylene, which are used as feed stocks in a refinery's alkylation process. The accumulation is due to the increased production of shale gas and shale oil, which has increased the production of by-product isobutane and propane (used to produce propylene). According to EIA data, U.S. Gas Plant production of isobutane has grown by 58% between 2010 and 2015. The rise in volume of alkylate feed stocks released through the extraction and refining of shale gas and crudes has resulted in more of those feedstocks, such as isobutane to be used in the production process. The conversion process used to turn isobutane and propylene into alkylates requires a high volume of sulfuric acid and thus the proliferation of isobutane and propylene is driving demand for sulfuric acid.

Virgin Sulfuric Acid Demand

In virgin sulfuric acid, general industrial users in the United States are expected to be influenced by positive economic trends and continue to benefit from competitively priced natural gas used in their manufacturing activities. Additionally, Eco believes its mining customers have long reserve lives and are increasing production to meet global consumption demand for copper and borates. Both of these trends are expected to lead to higher virgin sulfuric acid demand.

Excluding the refining industry, which is served primarily by acid regeneration, the four virgin sulfuric acid demand regions are (i) the Southwest, primarily from the mining industry users; (ii) the Gulf Coast, led by the nylon and general chemical and industrial users; (iii) the Midwest, driven by agricultural and general chemical users; and (iv) the East, primarily from general chemical and industrial users including pulp and paper and water treatment. In 2015, in Eco's virgin sulfuric acid product line, Eco primarily served the Nylon (30% of 2015 net sales), General Industrial and Chemical (29% of 2015 net sales) and Mining (25% of 2015 net sales) end-uses.

Nylon. Sulfuric acid is used in the production of caprolactam, the key constituent of nylon. Globally, demand for caprolactam, a compound used almost exclusively for the manufacture of nylon, is expected to grow by 3.2% annually between 2013 and 2018, with Asia accounting for 70% of global demand for caprolactam by 2018. The U.S. nylon industry currently benefits from access to low-cost natural gas feedstock, positioning domestic producers strongly to capitalize on forecasted growth relative to higher-cost European exporters. As of 2013, the United States produced approximately 17% of the global caprolactam supply.

General Industrial and Chemical. Eco's general industrial and chemical customers comprise a broad range of sulfuric acid users, including lead-acid battery manufacturers and customers that consume acid in an industrial chemical or manufacturing process, or use sulfuric acid to treat waste streams resulting from the process. Low cost feedstock in the United States has fueled more than an estimated $100 billion of expenditures related to project announcements for 148 new plants and/or expansions of existing plants in the chemical sector primarily in the Gulf Coast, which Eco believes will increase demand for virgin sulfuric acid over time.

Copper Mining. Copper consumers use sulfuric acid in their copper leaching processes, sourcing acid from both their own production facilities and from the merchant producers. Total global copper consumption is expected to increase by 27% between 2014 and 2024.

Borax Mining. Eco's borate customer produces approximately 30% of the world's borates, which are used to produce boric acid used in specialty glass applications, such as LED, LCD and smart devices, fiberglass, solar cells, and crop yield and pesticide products. Global demand for boric acid is expected to grow by approximately 5% annually through to 2020, driven primarily by end-use demand in agriculture, ceramics, detergents and insulation production.

Pass-Through Contracts and Raw Material Inputs

Most of Eco's contracts feature take-or-pay volume protection and/or quarterly price adjustments for commodity inputs, labor, the Chemical Engineering Index (U.S. chemical plant construction cost index) and natural gas. In Eco's regeneration product line, over 99% of Eco's 2015 and 2014 volumes were under contracts featuring quarterly price adjustments. In Eco's virgin acid product line, approximately 81% and 89% of 2015 and 2014 volumes were under contracts featuring quarterly price adjustments, respectively. The price adjustments generally reflect Eco's actual cost structure in producing acid, and tend to protect us from volatility in labor, fixed costs and raw material pricing. Freight expenses are generally passed through directly to customers. Spent acid for the regeneration business is supplied by customers for a nominal charge as part of their contracts.

Refinery and Competitor Plant Outages

The volumes of regenerated sulfuric acid Eco produces as well as its results of operations are impacted by outages or planned turnarounds at captive sulfuric plants operated by oil refineries or by outages at the plants operated by Eco's competitors. In the past Eco has experienced increased volumes as a result of turnarounds or outages at captive plants. Additionally, in the past Eco has experienced increased volumes and net sales as a result of outages at competitor plants.

Description of Key Financial Statement Line Items

Net Sales. Net sales represent revenue from the sale of virgin sulfuric acid, regenerated acid and treatment and other products and services. Revenue is recognized when the earnings process is complete. This generally occurs when products are shipped to the customer in accordance with the terms of the agreement, title and risk of loss have been transferred, collectability is reasonably assured, and pricing is fixed or determinable.

Cost of Sales. Cost of sales includes fixed and variable costs to manufacture procure and ship products and provide services sold and recognized as sales revenue. Variable costs are those costs that vary depending on Eco's production volume. Excluding freight, variable costs in Eco's regeneration product line primarily consist of natural gas, caustic, electricity and water. Excluding freight, variable costs in Eco's virgin product line primarily consist of sulfur, hydrogen sulfide, caustic soda and electricity. Fixed costs include plant fixed costs such as labor, maintenance, insurance, property taxes as well as fixed freight costs.

Contribution Margin. Contribution margin represents sales less variable costs and is a non-GAAP measure. This is a measure of profitability that management reviews to evaluate the results for regenerated acid and virgin acid before fixed costs which cannot be easily allocated between the two products.

Results of Operations

Eco's results of operations were as follows for the year ended December 31, 2015, the period from inception (July 30, 2014) to December 31, 2014, and Eco Services, a business unit of Solvay, for the period January 1, 2014 to November 30, 2014, and the year ended December 31, 2013:

($ in thousands)	Predecessor Fiscal Year Ended December 31, 2013	Combined Predecessor and Successor 2014	Predecessor January 1, 2014 to November 30, 2014	Successor Period from Inception (July 30, 2014) to December 31, 2014	Successor Fiscal Year Ended December 31, 2015
Net sales	$ 390,834	$ 397,362	$ 361,823	$ 35,539	$ 388,875
Cost of sales	(286,371)	(302,347)	(271,635)	(30,712)	(282,795)
Gross profit	104,463	95,015	90,188	4,827	106,080
Selling, general and administrative	(45,697)	(63,586)	(45,168)	(18,418)	(47,927)
(Provision) benefit for environmental reserve	(1,174)	213	213	—	—
Operating profit (loss)	57,592	31,642	45,233	(13,591)	58,153
Other Income	3,266	—	—	—	—
Interest expense, net	(122)	(8,556)	(86)	(8,470)	(44,348)
Income (loss) before income taxes	60,736	23,086	45,147	(22,061)	13,805
Provision for income taxes	(21,445)	(14,602)	(14,602)	—	—
Net income (loss)	$ 39,291	$ 8,484	$ 30,545	$(22,061)	$ 13,805

Net Sales and Contribution Margin

Eco has three product lines, (i) regenerated acid, (ii) virgin sulfuric acid and (iii) other products and services. Eco evaluates product line performance based upon product line net sales and contribution margin. The following table provides net sales and contribution margin for Eco's three product lines for the year ended December 31, 2015, the period from inception (July 30, 2014) to December 31, 2014, the period January 1, 2014 to November 30, 2014, and the year ended December 31, 2013:

	Net Sales ($ in thousands)				
	Predecessor Fiscal Year Ended December 31, 2013	Combined Predecessor and Successor 2014	Predecessor January 1, 2014 to November 30, 2014	Successor Period from Inception (July 30, 2014) to December 31, 2014	Successor Fiscal Year Ended December 31, 2015
Regenerated Acid	$176,939	$191,160	$174,554	$16,606	$192,903
Virgin Sulfuric Acid	183,394	178,493	161,607	16,886	167,593
Other Products & Services	18,934	21,001	19,041	1,960	22,363
Product Line Total	379,267	390,654	355,202	35,452	382,859
Abatement & Other(1)	11,567	6,708	6,621	87	6,016
Total	$390,834	$397,362	$361,823	$35,539	$388,875

	Contribution Margin ($ in thousands)				
	Predecessor Fiscal Year Ended December 31, 2013	Combined Predecessor and Successor 2014	Predecessor January 1, 2014 to November 30, 2014	Successor Period from Inception (July 30, 2014) to December 31, 2014	Successor Fiscal Year Ended December 31, 2015
Regenerated Acid	$128,169	$134,323	$124,762	$ 9,561	$145,515
Virgin Sulfuric Acid	101,361	94,108	88,699	5,409	89,070
Other Products & Services	19,052	20,455	18,897	1,558	21,304
Product Line Total	248,582	248,886	232,358	16,528	255,889
Abatement & Other(1)	2,305	5,625	5,537	88	—
Total	$250,887	$254,511	$237,895	$16,616	$255,889

(1) In prior years, Eco installed scrubbers at various plants due to regulatory requirements and passed on the costs of these scrubbers to our customers. Amounts shown relates to the amortization of these capital refunds.

Adjustments from Historical Financial Statements

The results of operations presented in this Management's Discussion and Analysis of Financial Condition and Results of Operations reflect certain adjustments from the historical financial statements included immediately above. Listed below are the material adjustments made by management and the basis for each adjustment:

- Expenses characterized as cost of sales in the historical financial statements have been split into two line items, variable costs and fixed costs. Additionally, plant-related depreciation and amortization, which is included in cost of sales in the historical financial statements, has been removed from fixed costs and has been included in depreciation and amortization to provide a more transparent breakdown of actual cash fixed costs. Additionally, the fixed costs are not allocated among the three product lines and separating variable costs allows us to track contribution margin on a product line basis. The following table reconciles variable costs, depreciation and amortization, and fixed costs (excluding depreciation and amortization) to cost of sales.

($ in thousands)	Predecessor Fiscal Year Ended December 31, 2013	Combined Predecessor and Successor 2014	Predecessor January 1, 2014 to November 30, 2014	Successor Period from Inception (July 30, 2014) to December 31, 2014	Successor Fiscal Year Ended December 31, 2015
Variable costs	$139,947	$142,851	$123,928	$18,923	$132,986
Fixed costs (excluding depreciation and amortization)	112,823	123,334	114,427	8,907	115,451
Depreciation and amortization included in fixed costs	33,601	36,162	33,280	2,882	34,358
Cost of sales (per financial statements)	$286,371	$302,347	$271,635	$30,712	$282,795

- Corporate allocations, which are included in SG&A expense in the historical financial statements, have been characterized in this Management's Discussion and Analysis of Financial Condition and Results of Operations as a separate line-item. Additionally, SG&A expense related depreciation and amortization, which is included in SG&A expense in the historical financial statements, has been presented as a separate line item. Both of these adjustments were made to provide a more transparent breakdown of Eco's actual cash SG&A expenses. Additionally, corporate allocations were separated out of SG&A expense in order to allow us to track Eco's costs as a standalone company. The following table reconciles SG&A expense (excluding corporate allocations and depreciation and amortization), corporate allocations and depreciation and amortization to SG&A expense as presented in the financial statements.

	Predecessor Fiscal Year Ended December 31, 2013	Combined Predecessor and Successor 2014	Predecessor January 1, 2014 to November 30, 2014	Successor Period from Inception (July 30, 2014) to December 31, 2014	Successor Fiscal Year Ended December 31, 2015
Selling, general and administrative expense (excluding corporate allocations and depreciation and amortization)	$18,950	$41,394	$23,049	$18,345	$46,916
Corporate allocations	16,853	12,941	12,941	—	—
Depreciation and amortization included in selling, general and administrative expense	9,894	9,251	9,178	73	1,011
Selling, general and administrative expense (per financial statements)	$45,697	$63,586	$45,168	$18,418	$47,927

Adjusted Operating Results

Adjusted operating results were as follows for the year ended December 31, 2015, the period from inception (July 30, 2014) to December 31, 2014, the period January 1, 2014 to November 30, 2014, the year ended December 31, 2013:

	Predecessor Fiscal Year Ended December 31, 2013	Combined Predecessor and Successor 2014	Predecessor January 1, 2014 to November 30, 2014	Successor Period from Inception (July 30, 2014) to December 31, 2014	Successor Fiscal Year Ended December 31, 2015
Net Sales	$390,834	$397,362	$361,823	$ 35,539	$388,875
Variable costs	139,947	142,851	123,928	18,923	132,986
Contribution Margin	250,887	254,511	237,895	16,616	255,889
Fixed costs (excluding depreciation and amortization)	112,823	123,334	114,427	8,907	115,451
Adjusted gross profit	138,064	131,177	123,468	7,709	140,438
Selling, general, and admin. exp. (excluding corporate allocations and depreciation and amortization)	18,950	41,394	23,049	18,345	46,916
Provision for environmental reserve	1,174	(213)	(213)	—	—
Corporate allocations	16,853	12,941	12,941	—	—
Depreciation and amortization	43,495	45,413	42,458	2,955	35,369
Operating profit (loss)	$ 57,592	$ 31,642	$ 45,233	($13,591)	$ 58,153

Successor Year Ended December 31, 2015 Compared to Combined Successor and Predecessor Year Ended December 31, 2014

Net Sales

Net sales decreased to $388.9 million in the year ended December 31, 2015 compared to combined net sales of $397.4 million for the year ended December 31, 2014, representing a decrease of $8.5 million or 2.1%. Product line sales decreased to $382.9 million compared to $390.7 million for the same period last year, representing a decrease of $7.8 million, or 2.0%. Sales from abatement and other services also decreased slightly by $0.7 million.

Regeneration sales increased to $192.9 million in the year ended December 31, 2015 compared to $191.2 million in the year ended December 31, 2014, representing an increase of $1.7 million, primarily due to higher sales volumes.

Virgin acid sales decreased to $167.6 million in the year ended December 31, 2015 compared to $178.5 million in the year ended December 31, 2014, representing a decrease of $10.9 million, or 6.1%, due to lower raw material (sulfur) costs passed through to customers, reflected in lower pricing, and reduced supply commitment to a large customer.

Other products and services sales increased to $22.4 million in the year ended December 31, 2015 compared to $21.0 million in the year ended December 31, 2014, representing an increase of $1.4 million, or 6.7%, due to increased treatment services sales volumes.

Cost of Sales

Cost of sales for the year ended December 31, 2015 decreased to $282.8 million for the year ended December 31, 2015 compared to $302.3 million for the year ended December 31, 2014, representing a decrease of $19.5 million, or 6.5%. The decrease was driven by $9.9 million lower variable costs, $7.9 million lower fixed costs and $1.8 million lower depreciation and amortization costs. Variable costs were lower for the year ended December 31, 2015 due to lower sulfur prices, and lower natural gas prices. The decrease in fixed costs was primarily due to lower plant fixed costs and lower freight transportation costs, offset by additional insurance costs as a stand-alone company in contrast to when Eco was a business unit of Solvay.

Gross Profit

Gross profit increased to $106.1 million in the year ended December 31, 2015 compared to $95.0 million in the year ended December 31, 2014, representing an increase of $11.1 million, or 11.7%. The increase was primarily due to lower variable and fixed costs offset by slightly lower sales volume, as described above.

Contribution Margin

Contribution margin increased to $255.9 million in the year ended December 31, 2015 compared to $254.5 million in the year ended December 31, 2014, representing an increase of $1.4 million, or 0.5%, mainly due to a sales volume reduction in virgin acid, offset by increased regeneration and treatment services sales.

Regeneration contribution margin increased to $145.5 million in the year ended December 31, 2015 compared to $134.3 million in the year ended December 31, 2014, representing an increase of $11.2 million, or 8.3%, driven by increased sales volumes.

Virgin acid contribution margin decreased to $89.1 million in the year ended December 31, 2015 compared to $94.1 million in the year ended December 31, 2014, representing a decrease of $5.0 million, or 5.3%, driven by volume reductions, including a decrease in Eco's supply commitment to a large customer.

Contribution margin from other products and services increased to $21.3 million in the year ended December 31, 2015 compared to $20.5 million in the year ended December 31, 2014, representing an increase of $0.8 million, or 4.2%, driven by higher treatment services sales volumes.

Selling, General, and Administrative Expense

Selling, general, and administrative expense decreased to $47.9 million in the year ended December 31, 2015 compared to $63.6 million in the year ended December 31, 2014, representing a decrease of $15.7 million, or 24.6%. The decrease was primarily due to corporate allocations and higher depreciation expense in 2014. Partially offsetting this decrease was an increase in certain selling, general and administrative expenses, due to post-acquisition transition costs associated with the 2014 Acquisition, including the costs of the Transition Services Agreement, stock-based compensation expense, higher salaries, fringe benefits and severance expense, plus increased professional fees for accounting, legal and other advisory services.

Fixed Costs and Interest Expense

Fixed costs (excluding depreciation and amortization) and interest expense were 21.2% higher for the year ended December 31, 2015 compared to the year ended December 31, 2014 due primarily to higher interest expenses. The following provides additional detail on the underlying changes in fixed costs and interest expense:

Fixed costs (excluding depreciation and amortization) were $115.5 million for year ended December 31, 2015 compared to $123.3 million for the year ended December 31, 2014, a $7.8 million, or 6.4% decrease. The decrease in fixed costs was driven primarily by lower plant fixed costs and lower fixed freight costs, offset by additional insurance costs of a stand-alone company.

Interest expense was $44.3 million for the year ended December 31, 2015 compared to $8.6 million of interest expense for the year ended December 31, 2014, due to a full year of interest expense in 2015 for the $700.0 million of new debt obligations related to the Existing Eco Senior Secured Credit Facilities and 2022 Notes issued on December 1, 2014 by Eco.

Combined Successor and Predecessor Year Ended December 31, 2014 Compared to Predecessor Year Ended December 31, 2013

Net Sales

Combined net sales for the year ended December 31, 2014 were $397.4 million compared to $390.8 million for the year ended December 31 2013, representing an increase of $6.6 million, or 1.7%. Regeneration sales increased by $14.2 million compared to the year ended December 31, 2013, which was partially offset by a $4.9 million decline in virgin sales. Sales from other products and services for the year ended December 31, 2014 increased $2.1 million, or 11.1% compared to the same period in 2013.

Regeneration sales increased to $191.2 million in the year ended December 31, 2014 compared to $176.9 million in the year ended December 31, 2013, representing an increase of $14.3 million, or 8.1%, due to stronger volumes from West Coast and Gulf Coast refineries and increased prices at certain refineries for certain customers.

Virgin acid sales decreased to $178.5 million in the year ended December 31, 2014 compared to $183.4 million in the year ended December 31, 2013, representing a decrease of $4.9 million, or 2.7%, due to lower raw material (sulfur) costs passed through to contract customers, reflected in lower pricing.

Other products and services sales increased to $21.0 million in the year ended December 31, 2014 compared to $18.9 million in year ended December 31, 2013, representing an increase of $2.1 million, or 11.1%, due to stronger treatment service sales.

Cost of Sales

Cost of sales for the year ended December 31, 2014 increased $16.0 million, or 5.6%, to $302.4 million from $286.4 million in the year ended December 31, 2013. The increase was driven by $2.9 million higher variable costs, $10.5 million higher fixed costs and $2.6 million higher depreciation and amortization. Variable costs were higher in the year ended December 31, 2014 due to $3.5 million amortization of inventory step-up associated with acquisition accounting relating to inventory, offset by lower sulfur prices, while the increase in fixed costs was driven by certain salary increases, higher rail car maintenance, and higher barge towing and barge leasing cost. The changes in depreciation and amortization are due to step-up associated with acquisition accounting and increased capital expenditures.

Gross Profit

Gross profit for the year ended December 31, 2014 decreased $9.5 million, or 9.1%, to $95.0 million compared to $104.5 million in the year ended December 31, 2013. The decrease was driven by higher fixed costs as discussed in the section below on fixed costs and other expenses.

Contribution Margin

Contribution margin for the year ended December 31, 2014 increased $3.6 million, or 1.4%, to $254.5 million compared to $250.9 million for the year ended December 31, 2013 due to price increases in regeneration, volume growth in virgin acid and favorable mix in both product lines.

Regeneration contribution margin increased in the year ended December 31, 2014 to $134.3 million from $128.2 million in the year ended December 31, 2013, driven by price increases at certain refineries for certain customers and favorable customer mix from increased volumes from certain customers with above average pricing, partially offset by a $1.7 million decrease from amortization of inventory step-up associated with acquisition accounting.

Virgin acid contribution margin decreased to $94.1 million in the year ended December 31, 2014 from $101.4 million in the year ended December 31, 2013 driven by production issues at a plant which resulted in increased production and freight costs, and a $1.8 million decrease from the one-time amortization of inventory step-up associated with acquisition accounting.

Contribution margin from other products and services increased to $20.5 million in the year ended December 31, 2014 from $19.1 million in the year ended December 31, 2013 driven by higher sales.

Selling, General, and Administrative Expense

SG&A expense for the year ended December 31, 2014 increased 39.2% to $63.6 million from $45.7 million in the year ended December 31, 2013. The increase was primarily driven by $14.7 million in transaction-related costs from the 2014 Acquisition. The changes in corporate allocations and depreciation and amortization are further discussed under fixed costs and other expenses below.

Fixed Costs and Other Expenses

Fixed costs and other expenses were 9.3% higher for year ended December 31, 2014 compared to the year ended December 31, 2013 due primarily to higher fixed costs (excluding depreciation and amortization), SG&A expenses (excluding corporate allocations and depreciation and amortization), and depreciation and amortization partially offset by lower corporate allocations. The following provides additional detail on the underlying changes in fixed costs and other expenses:

- Fixed costs (excluding depreciation and amortization) were $123.3 million for the year ended December 31, 2014 compared to $112.8 million for the year ended December 31, 2013, a $10.5 million, or 9.3% increase. The increase in fixed costs was driven by certain salary increases, higher rail car maintenance, and higher barge towing and barge leasing cost.
- SG&A expenses (excluding corporate allocations and depreciation and amortization) were $41.4 million for the year ended December 31, 2014 compared to $18.9 million for the year ended December 31, 2013, a $22.5 million, or 119.0%, increase. The increase was primarily due to $14.7 million in transaction costs related to the 2014 Acquisition, and secondarily from higher salaries and higher fringe benefits.
- The benefit (provision) for environmental reserve was $0.2 million for the year ended December 31, 2014 compared to $(1.2) million for the year ended December 31, 2013, a $1.4 million, or 116.6%, decrease due primarily to an agreement with the California DEQ to revise a remediation plan at the Dominguez site which released $0.6 million from reserves.
- Depreciation and amortization was $45.4 million for the year ended December 31, 2014 compared to $43.5 million for the year ended December 31, 2013, a $1.9 million, or 4.4% increase, due to step-up associated with acquisition accounting and increases in capital expenditures.
- Interest expense, net was $8.6 million for the year ended December 31, 2014 compared to interest expense of $0.1 million for the year ended December 31, 2013, due to the $700.0 million of new debt obligations related to the Existing Eco Senior Secured Credit Facilities and 2022 Notes.

Provision for Income Taxes

Following the 2014 Acquisition, Eco is now a single member limited liability company (LLC), treated as an entity disregarded as separate from its owner for federal and state income tax purposes. All income tax liabilities and/or benefits of Eco are passed through to the member. As such, no recognition of federal or state income taxes for Eco has been provided for in the Successor Financial Statements.

For the Predecessor Financial Statements, income taxes have been prepared on a separate return basis as if Eco Services was a stand-alone entity. Historically, Eco Services was included in the tax filings with other Solvay entities. Eco Services' tax results as presented are not reflective of the results that Eco Services will generate following the 2014 Acquisition or would have generated on a stand-alone basis.

Liquidity and Capital Resources

Historical Cash Flows

The statements of cash flows reflect the changes in cash and cash equivalents for the year ended December 31, 2015, the period from inception (July 30, 2014) to December 31, 2014, the period from January 1, 2014 to November 30, 2014, and the year ended December 31, 2013, by classifying transactions into three major categories: operating, investing, and financing activities.

Historical Operating Activities

Successor

Net cash provided by operating activities was $48.9 million for the year ended December 31, 2015. The net cash provided by operating activities was the result of net income of $13.8 million adjusted for noncash items of $47.5 million for depreciation, amortization, amortization of debt issuance costs, accretion of debt discount, pension expense, loss on disposal of fixed assets, and stock-based compensation expense. Routine operating activities produced cash of $24.1 million through net changes in other receivables and prepaid expenses. These activities were offset by certain routine operating activities which used cash of $36.5 million represented by net changes in accounts receivable, inventories, other noncurrent assets, accounts payable, other payables, accrued expenses and other current liabilities, pension funding, accrued interest payable and other long-term liabilities.

Net cash used in operating activities was $2.0 million for the period from inception (July 30, 2014) to December 31, 2014. The net cash used by operating activities was the result of a net loss of $22.1 million adjusted for noncash items of $3.2 million for depreciation, amortization, including amortization of debt issuance costs and accretion of debt discount. Cash provided of $16.9 million was generated from routine operating activities represented by net changes in accounts receivable, other receivables, inventories, prepaid expenses, accounts payable, other payables, other current liabilities, accrued expenses, and other long-term liabilities. For the period from inception (July 30, 2014) to December 31, 2014, routine operating activities produced cash through a decrease in inventory of $4.9 million, an increase in other payables, other current liabilities, accrued interest payable, and other long-term liabilities of $23.7 million. This was partially offset by an increase in accounts receivable and other receivables of $7.9 million, increase in prepaid insurance and other current assets of $2.2 million, and decrease in accounts payable of $1.6 million.

Predecessor

Net cash provided by operating activities was $57.8 million for the period from January 1, 2014 to November 30, 2014. The net cash provided by operating activities was the result of net income of $30.5 million adjusted for noncash items of $32.7 million for depreciation, amortization, stock-based compensation, and deferred income tax expense. Cash used of $5.5 million for routine operating activities represented by changes in accounts receivable, other receivables, inventories, prepaid expenses, accounts payable, accrued expenses, other long-term liabilities, and long-term deferred revenue. For the period from January 1, 2014 to November 30, 2014, routine operating activities used cash through an increase in accounts receivable and other receivables of $4.1 million, an increase in inventories of $5.2 million, a decrease in other long-term liabilities of $2.1 million, and decrease in deferred revenue of $3.6 million. This was partially offset by an increase in accounts payable of $6.8 million, and an increase in other current liabilities of $2.6 million.

Net cash provided by operating activities for the year ended December 31, 2013 of $84.4 million was the result of net income of $39.3 million adjusted for noncash items of $43.0 million for depreciation, amortization, stock-based compensation, and deferred income tax expense. Cash provided by operations was adjusted by of $2.2 million for routine operating activities represented by changes in accounts receivable, other receivables, inventories, prepaid expenses, accounts payable, accrued expenses, other long-term liabilities, and long-term deferred revenue. In 2013, routine operating activities produced cash through a decrease in accounts receivable and other receivables of $10.7 million and a decrease in inventories of $3.5 million. This was partially offset by a decrease in accounts payable of $6.1 million, a decrease in accrued expenses of $2.5 million, and a decrease in other long-term liabilities including long-term deferred revenue of $3.3 million.

Historical Investing Activities

Successor

Net cash used for investing activities was $42.7 million for the year ended December 31, 2015, due to purchases of property, plant, and equipment and intangible assets as well as noncurrent deposits.

Net cash used for investing activities for the period from inception (July 30, 2014) to December 31, 2014 was $888.3 million, primarily as the result of cash paid for the acquisition of Eco Services of $885.4 million, and $2.9 million for purchases of property, plant, and equipment.

Predecessor

Net cash used for investing activities for the period from January 1, 2014 to November 30, 2014 was $32.9 million in connection with purchases of property, plant, and equipment. Net cash used for investing activities was $41.7 million for the year ended December 31, 2013 in connection with purchases of property, plant, and equipment.

Historical Financing Activities

Successor

Net cash used in financing activities was $3.7 million for the year ended December 31, 2015, primarily due to $5.0 million repayment of term loan borrowings as well as $0.2 million of payments on capital leases, partially offset by proceeds from issuance of member's equity of $1.5 million. The Company borrowed and repaid $12 million from its revolving credit facility during the twelve months ended December 31, 2015.

Net cash provided by financing activities for the period from inception (July 30, 2014) to December 31, 2014 was $913.0 million. Eco provided cash from financing activities as the result of proceeds for the funding of the 2014 Acquisition, including $239.9 million from the issuance of members' equity, $497.5 million proceeds from issuance of the Existing Eco Senior Secured Credit Facilities borrowings, net of discount, and $200.0 million proceeds from the issuance of the Senior Unsecured Notes, partially offset by debt issuance costs of $24.4 million.

Predecessor

Net cash used for financing activities was $24.9 million for the Predecessor period. Eco used cash to pay $0.2 million for capital lease obligations and $24.7 million in net transfers to Solvay.

Net cash used for financing activities was $42.7 million for the year ended December 31, 2013. Eco Services used cash to pay $1.5 million for capital lease obligations and $41.3 million in net cash transfers to Solvay.

Historical Liquidity

Eco's primary source of liquidity is cash generated from operations and availability of the revolving credit facility under the Existing Eco Senior Secured Credit Facilities. Eco's primary uses of cash are for debt service and capital expenditures.

Eco's working capital (current assets minus current liabilities) position of $16.0 million as of December 31, 2015 represents an increase of $9.5 million from the December 31, 2014 level of $6.5 million. The primary reasons for the increase in working capital were an increase in cash and inventory and decreases in accounts payable and accrued expenses.

Eco expects total capital expenditures in 2016 to range from $48 million to $53 million.

Critical Accounting Policies and Estimates

Eco's accounting policies are more fully described in Note 3, "Summary of Significant Accounting Policies," to the consolidated financial statements contained herein. As disclosed in that note, the preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect reported amounts. Future events cannot be predicted with certainty, and, therefore, actual results could differ from those estimates. The following section describes Eco's critical accounting policies.

Receivables and Allowance for Doubtful Accounts

Receivables are recognized net of an allowance for doubtful accounts. The allowance for doubtful accounts receivable reflects the best estimate of losses inherent in accounts receivable portfolio determined on the basis of historical experience, specific allowances for known troubled accounts and other available evidence. Accounts receivable are written off when Eco determines they are uncollectible.

Goodwill

Eco accounted for the 2014 Acquisition under the acquisition method of accounting for business combinations. The purchase price was allocated to tangible assets acquired and liabilities assumed based upon their estimated fair values. The purchase price allocation, which is based on the estimated fair value of net assets acquired, resulted in Eco recording goodwill of $311.9 million. Eco believes that expected synergies of the acquisition is the primary reason that contributed to a total purchase price that resulted in the recognition of goodwill.

Eco has historically assessed the goodwill and the tradename indefinite-lived intangible asset for impairment on an annual basis at December 31, and also at any other date when events or changes in circumstances indicate that book value may exceed fair value. During the three months ended December 31, 2015, Eco voluntarily changed its annual impairment assessment date to October 1, for goodwill and indefinite-lived intangible asset. The change was made to more closely align the impairment testing date with its strategic planning process, preparation of its long-term financial budget and cash flow projections and to ensure annual testing occurs within one year of the 2014 Acquisition.

Eco believes that this change in measurement date, which represents a change in method of applying an accounting principle, is preferable under the circumstances, and did not result in the delay, acceleration or avoidance of an impairment charge. Eco prospectively applied the change to the annual impairment assessment date beginning October 1, 2015, as there was no impairment assessment performed as of December 31, 2014, as the Acquisition occurred December 1, 2014. As a result of the impairment testing completed as of October 1, 2015, Eco has determined that there was no impairment of goodwill or indefinite-lived intangible asset.

Intangible Assets

Intangible assets are carried at cost in the balance sheet, less accumulated amortization if applicable. Major intangible assets include customer relationships, developed technology and trade name, as well as environmental permits.

Definite lived intangible assets are amortized using the straight-line method over their expected period of use. Amortization methods and useful lives are reviewed at least once a year, or more frequently if factors change that could impact the life of the underlying assets. In the Successor Financial Statements, the estimated useful lives for customer lists, developed technology and permits, is fifteen years, fourteen years and five years, respectively. In the Predecessor Financial Statements, the estimated useful life for both the customer relationship and developed technology intangible assets is fifteen years. The estimated useful lives range five to ten years for environmental permits.

Definite lived intangible assets are assessed for impairment whenever events indicate a possible loss. Such an assessment involves estimating undiscounted cash flows over the remaining useful life of the intangible asset. If the assessment indicates that undiscounted cash flows are less than the recorded value of the intangible asset, the carrying amount of the intangible asset is reduced by the estimated cash-flow shortfall on a discounted basis, and a corresponding loss is recorded. There were no intangible asset impairments recorded during the periods presented.

Environmental Liabilities

Eco's operations are subject to extensive and changing federal, state, local and foreign environmental laws and regulations, which could become more stringent over time. Certain manufacturing sites have an extended history of industrial use. As is typical in the specialty chemicals business, soil and groundwater contamination has occurred in the past at certain sites and might occur or be discovered in the future at other sites. Investigation and remediation or monitoring soil and groundwater contamination is currently in process at certain of these sites. In addition, Eco is currently involved as a potentially responsible party under federal and state statutes requiring remediation resulting from past waste disposal practices at certain sites, including inactive sites. Currently, Eco is participating in environmental assessments, remedial investigations/feasibility studies and remediation efforts at these and other sites that may involve additional environmental costs in the future.

Periodic analyses are performed for environmental risks and the corresponding provisions. The provisions are measured to the best of management's knowledge and applicable regulations, the nature and extent of the pollution, clean up techniques and other available information.

Environmental liabilities are difficult to assess for numerous reasons, including the discovery of new remedial sites, discovery of new information and scarcity of reliable information pertaining to certain sites, improvements in technology, changes in environmental laws and regulations, numerous possible remedial techniques and solutions, difficulty in assessing the involvement of and the financial capability of other potentially responsible parties (including insurers and other indemnities) and the extended time periods over which remediation occurs. As the environmental contingencies are more clearly determined, it is reasonably possible that amounts in excess of those amounts already accrued may be necessary and may be material.

Additionally, there is a state mandate to remediate ground soil at one operating site in the event this site is shut down. There are no plans to sell, shut down or otherwise dispose of this site. Therefore, there is an indeterminate settlement date for this potential obligation because the range of time over which it may settle is unknown. Accordingly, a reasonable estimate of the fair value of this potential obligation cannot be made and, as such, an accrual has not been made.

Contingencies

There may be legal or regulatory proceedings that arise in the ordinary course of business. Accruals are recorded for contingencies to the extent that their occurrence is probable and that the related liabilities are estimable. Anticipated recoveries under existing insurance contracts are only recorded when assured of recovery. Many factors are considered in making these assessments, including the progress of the case, opinions or views of legal counsel, prior case law, historical experience or other companies in similar cases, and deemed intent on how to respond. Because litigation and other contingencies are inherently unpredictable and excessive verdicts do occur, these assessments can involve a series of complex judgments about future events and can rely heavily on estimates and assumptions. Legal costs are accrued in advance of when they are incurred when such costs are considered probable and estimable.

There is various pending litigation arising in the ordinary course of business, which include claims for compensation for civil responsibility for chemical products produced. Based on facts currently available and discussion with counsel, management is of the opinion that the disposition of these matters will not materially affect the results of operations, financial position or cash flows.

Revenue Recognition

Revenue is recognized when the earnings process is complete. This generally occurs when products are shipped to the customer in accordance with the terms of the agreement, title and risk of loss have been transferred, collectability is reasonably assured, and pricing is fixed or determinable.

The Predecessor Financial Statements included deferred revenue related to environmental abatement arrangements. In connection with the Acquisition, Eco concluded there was no remaining service requirements to be performed under these former environmental abatement arrangements. As such, no deferred revenue liability was recorded as part of the purchase price allocation included in the Successor Financial Statements.

Employee Benefits

In connection with the 2014 Acquisition, Eco assumed the liabilities related to employees who participate in defined benefit pension and other post-employment benefit plans (the "Plans") previously sponsored by Solvay. These Plans are accounted for in accordance with accounting guidance for defined benefit pension and other post-employment plans, and the total cost of the Plans is determined annually by actuarial valuation.

In accordance with the Asset Purchase Agreement, during 2015 Eco and Solvay completed its review and concurred on of the calculation of the final accumulated benefit obligation ("ABO"). Solvay paid the required difference between the trust-to-trust plan asset transfer, and the final ABO of $14.9 million through the transfer of additional funds from its general assets to Eco's general assets outside of the Plans. Eco then transferred to the Company's plan trusts an aggregate of $14.9 million to settle its estimated liability for the Plans. For the year ended December 31, 2015, Eco recorded approximately $2.9 million in net pension and post-retirement expense for the current year estimated service costs and interest costs for the Plans.

Share-Based Compensation

Group Holdings, the ultimate parent of Eco, granted a total of 25,786 Class B Units (the "Grant Units") to certain employees, directors and affiliates of Eco at an exercise price of $1 per Grant Unit. Of this amount, 14,419 and 11,367 Grant Units were granted on January 13, 2015 and December 31, 2014, respectively. As of December 31, 2015, 25,093 Grant Units were outstanding.

Of this total, 10,674 Grant Units granted to employees have two vesting criteria, in which 50% are subject to time-based vesting criteria and 50% are subject to performance-based criteria. The time-based Grant Units vest in four equal annual installments on December 1, 2015, December 1, 2016, December 1, 2017, and December 1, 2018. 14,419 Grant Units to directors and affiliates are subject to time-based vesting criteria only, and vest in four equal annual installments on December 1, 2015, December 1, 2016, December 1, 2017, and December 1, 2018. All of the Grant Units and were valued using the Black-Scholes option pricing model, and the fair value of a Grant Unit was $0.448. The key assumptions used in valuing the Grant Units were as follows: expected life of seven years, expected volatility of 40.27%, risk-free interest rate of 2.02%, and 0.00% annual dividend yield.

For the year ended December 31, 2015 compensation expense of $2.3 million, was recorded for the Grant Units. There was no compensation expense recorded for the time-based Grant Units for the period from inception (July 30, 2014) to December 31, 2014 as such amount was not significant. Unrecognized compensation expense related to these time-based Grant Units was approximately $6.8 million and is expected to be recognized over the next three years. The performance-based Grant Units only vest when specific liquidity events occur. As of December 31, 2015 and 2014, the performance-based criteria of the Grant Units was deemed not probable, thus no expense for the performance-based Grant Units has been recorded.

Recently Issued Accounting Standards

Changes to U.S. GAAP are established by the FASB in the form of Accounting Standards Updates ("ASU's") to the FASB's ASC. Management considers the applicability and impact of all ASU's. ASU's not listed below were assessed and determined to be either not applicable or are expected to have minimal impact on the financial position or results of operations.

In February 2016, the FASB issued guidance that amends the accounting for leases. Under the new guidance, a lessee will recognize assets and liabilities for most leases but will recognize expenses similar to current lease accounting. The guidance is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018. Early adoption is permitted. The new guidance must be adopted using a modified retrospective transition, and provides for certain practical expedients. Eco is currently evaluating the impact that the new guidance will have on its consolidated financial statements.

In May 2014, the FASB issued ASU 2014-09, "Revenue from Contracts with Customers," which provides guidance for revenue recognition. The standard's core principle is that a company should recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. This ASU also requires additional disclosures. ASU 2014-09 is effective for annual reporting periods beginning after December 15, 2017. Eco is currently in the process of evaluating the impact of adoption of this ASU on its financial statements.

In July 2015, the FASB issued ASU 2015-11, "Simplifying the Measurement of Inventory." The standard requires an entity to measure inventory at the lower of cost and net realizable value. Net realizable value is the estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation. These amendments do not apply to inventory that is measured using last-in, first out or the retail inventory method. The amendments apply to all other inventory, which includes inventory that is measured using first-in, first-out or average cost. The requirements of this standard are effective for financial statements issued for fiscal years beginning after December 15, 2016 with early adoption permitted. Eco is currently in the process of evaluating the impact of adoption of this ASU on its financial statements.

In August 2015, the FASB issued ASU 2015-15, "Presentation and Subsequent Measurement of Debt Issuance Costs Associated with Line-of-Credit Arrangements." As described above, the FASB issued ASU 2015-03, which does not address presentation or subsequent measurement of debt issuance costs related to line-of-credit arrangements. ASU 2015-15 adds SEC paragraphs pursuant to the SEC Staff Announcement at the June 18, 2015 Emerging Issues Task Force ("EITF") meeting. Given the absence of authoritative guidance within Update 2015-03 for debt issuance costs related to line-of-credit arrangements, ASU 2015-15 adds language from the EITF that the SEC staff would not object to an entity deferring and presenting debt issuance costs as an asset and subsequently amortizing the deferred debt issuance costs ratably over the term of the line-of-credit arrangement, regardless of whether there are any outstanding borrowings on the line-of-credit arrangement. Eco has adopted the requirements of this standard as described above.

In September 2015, the FASB issued ASU 2015-16, "Simplifying the Accounting for Measurement-Period Adjustments." The standard will change the requirements for reporting measurement period adjustments to provisional amounts initially recognized in conjunction with a business combination. Under U.S. GAAP, an acquiring entity currently is required to retrospectively adjust, in prior period financial statements, the provisional amounts to reflect new information obtained during the measurement period (a period, which may not exceed one year from the date of the business combination, during which the acquiring entity may receive information about the facts and circumstances existing as of the acquisition date that, if known, would have affected the measurement of the amounts recognized as of the acquisition date). Under the new guidance, adjustments to the provisional amounts will be reflected in the financial statements for the reporting period in which the adjustments are determined, including by recognizing in current period earnings the full effect of changes in depreciation, amortization or other income effects. The guidance requires that the acquiring entity either present separately on the face of the current period income statement or disclose in the notes to the current period financial statement, by line item, the amount of the adjustments made during the current period. The new guidance for nonpublic entities will be effective for fiscal years beginning after December 15, 2016, and interim periods within fiscal years beginning after December 15, 2017. The amendments should be applied prospectively to adjustments to provisional amounts that occur after the effective date of the guidance with earlier application permitted for financial statements that have not yet been made available for issuance. Eco has elected to adopt the requirements of this standard as of December 31, 2015.

Quantitative and Qualitative Disclosures about Market Risk

Interest Rate Risk

Eco is currently exposed to the impact of interest rate changes as borrowings under the Existing Eco Senior Secured Credit Facilities bear interest at variable interest rates. It is Eco's policy to enter into interest rate swap and interest rate cap transactions only to the extent considered necessary to meet its objectives. Based on Eco's exposure to variable rate borrowings at December 31, 2015, a one percent (1%) change in the LIBOR rate above the LIBOR floor in the Existing Eco Senior Secured Credit Facilities for a period of one year would change the annual interest expense by approximately $5.0 million.

Commodity Price Risk

Eco has direct and indirect exposure to certain commodities, principally natural gas and sulfur (including hydrogen sulfide). In Eco's regeneration business its exposure to natural gas represented approximately 40% of its total variable costs for the year ended December 31, 2015. A $1 per ton increase in the cost of natural gas from current levels would cause the percentage of variable costs to increase to 47%. In Eco's virgin sulfuric acid business its exposure to sulfur represented approximately 92% of Eco's total variable costs for the year ended December 31, 2015. A $20 per ton increase in the cost of sulfur from current levels would cause the percentage of variable costs to increase to 93%. Eco typically does not enter into derivate financial instruments to hedge its commodity price risk and Eco does not currently have long- term supply contracts with key suppliers. However, the majority of Eco's customer contracts contain quarterly price adjustments for commodity inputs that protect it from volatility in commodity prices, as described above in "Pass Through Contracts and Raw Material Inputs."

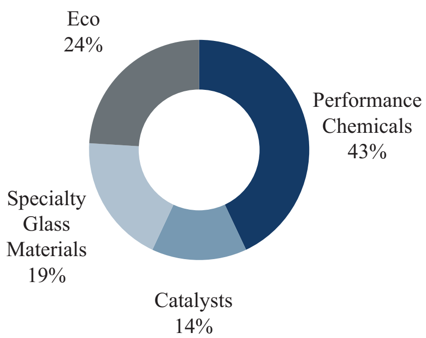
BUSINESS

The following discussion of our business gives pro forma effect to the Business Combination and treats Eco as a business unit of PQ.

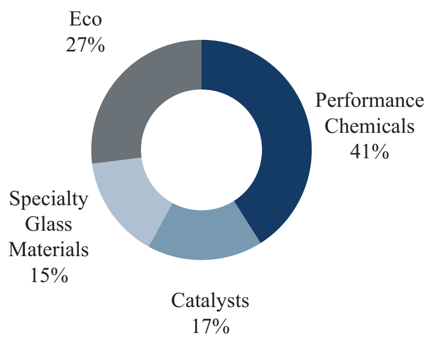
Company Overview

We are a leading integrated global innovator and producer of specialty inorganic performance chemicals, specialty catalysts, specialty glass materials and merchant sulfuric acid. We are focused on developing sustainable and innovative material science solutions to meet critical needs around the world. We believe we are a leader in each of our businesses, holding what we estimate to be a number one or two supply share position for the year ended December 31, 2015 for greater than 90% of the products we produced, based on volume, in North America, EMEA or Asia, as applicable, where the respective products are sold. Customers use our products as a critical component for a broad range of applications including catalysts to address emissions control in automotive catalytic converters, silica-based additives to enhance teeth whitening performance in toothpaste, silica additives for "green tires" that improve fuel efficiency, glass beads used for reflectivity in highway safety applications, and sulfuric acid used as a catalyst in the production of alkylates for gasoline blending. We are at the forefront of our industry and continue to develop innovative solutions to meet customers' productivity, environmental and profitability objectives. For the year ended December 31, 2015, we generated pro forma combined sales and Pro Forma Combined Adjusted EBITDA of $1,567 million and $434 million, respectively, representing a Pro Forma Combined Adjusted EBITDA margin of approximately 28%. We are highly diversified by business, geography and end-use application, as indicated in the charts below, which show our pro forma combined sales and Pro Forma Combined Adjusted EBITDA by business and pro forma combined sales by region and end-use in percentage terms for the year ended December 31, 2015.

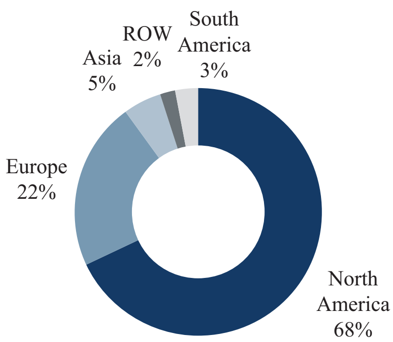
Pro Forma Combined Sales[(1)] by Business



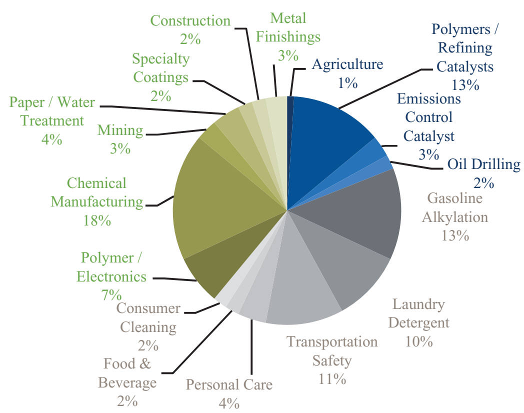
Pro Forma Combined Adjusted EBITDA by Business



Pro Forma Combined Sales by Region



Pro Forma Combined Sales by End-Use



---

(1) PQ revenue includes PQ's proportionate share of revenue from our Catalyst joint ventures, and Eco sales are net of abatement revenue.

We sell our products to over 4,000 customers across 17 major end-uses globally from our 68 manufacturing facilities, which are strategically located across six continents. Our geographic footprint is closely aligned with our customers and our highly efficient network of plants provides us with a strong competitive advantage. In some instances, we are co-located with or pipeline connected to our customers. We are able to meet our customers' needs by efficiently expanding our plant capacity which provides us an advantage compared to cost and regulatory complications associated with "greenfield" plants. Our longstanding customer relationships are supported by long term contracts which feature cost pass-through protections. Our strong industry position, diversified customer base and high degree of customer loyalty have enabled us to consistently generate stable cash flows through economic cycles. From 2005 to 2015, the combined business achieved a 5.2% pro forma combined sales CAGR and a 7.3% Adjusted EBITDA CAGR.

Summary Business and Products. The table below summarizes our key businesses, products, supply share positions and end-uses. Sales in the table below are presented on the same basis in which we manage our businesses, which includes the proportionate consolidation of our Catalyst joint ventures. This presentation differs from our sales in the consolidated financial statements, as the Catalyst joint ventures are each accounted for as equity method investments in accordance with U.S. GAAP and, as a result, the sales figures presented in the below table are not presented in accordance with U.S. GAAP.

Businesses and product groups	Year Ended December 31, 2015 Sales ($ in millions)(1)	% of FY 2015 Pro Forma Combined Total Sales(1)	Supply positions(2) North America	Supply positions(2) EMEA and Asia	Key functions and end-uses
Performance Chemicals					
Sodium Silicate	$318.4	20%	#1	#2	Building blocks for downstream silicates / silicas, bleaching aid and catalysts support
Specialty Silicas	$134.1	9%	#2	#3	Polishing aid in toothpaste, adsorbent for surface coatings, clarifying agent for beverages (beer); alters consistency of personal care products
Zeolite Products	$ 95.0	6%	#1	#1	Water softener for detergent, additive for paving, paper strengthener and lubricant
Spray Dry Silicate	$ 38.2	2%	#1	#1	Highly soluble solution for cleaning products and construction
Magnesium Silicate	$ 12.1	1%	—	#2	Purification of crude polyols and of frying oil
Other Specialty Chemicals	$ 77.4	5%	—	—	Aluminum, lithium silicate and other chemicals
Performance Chemicals subtotal(3)	**$675.2**	**43%**			
Catalysts					
Silica Catalysts	$ 58.2	4%	#2(4)	—	Polymerization of HDPE for plastic containers, gas and sewer pipes, films, grocery bags and other plastic materials, including synthesis of organic chemicals
Specialty Zeolite-Based Catalysts(5)	$159.8	10%	#1/#2(5)	—	Remove impurities from diesel and gasoline to meet emissions standards; also used in chemical synthesis and oil refining

Businesses and product groups	Year Ended December 31, 2015 Sales ($ in millions)(1)	% of FY 2015 Pro Forma Combined Total Sales(1)	Supply positions(2) North America	Supply positions(2) EMEA and Asia	Key functions and end-uses
Catalysts subtotal(1)	**$ 218.1**	**14%**			
Specialty Glass Materials					
Transportation Safety	$ 175.8	12%	#1	#1	Reflective glass beads used in highway and airport lane markings, guardrails, barriers and delineation
Engineered Glass Materials	$ 115.1	7%	#1(6)	#2(7)	Highly-specialized hollow and solid glass spheres and metal coated particles used in electronics, plastics manufacturing, metal finishing and drilling end-uses
Specialty Glass Materials subtotal(8)	**$ 290.9**	**19%**			
Eco					
Sulfuric Acid Regeneration	$ 192.9	12%	#1(2)	—	Used in the production of alkylates for oil refining and gasoline blending
Virgin Sulfuric Acid	$ 167.6	11%	#1(2)	—	Wide range of industrial end-users including the nylon, mining, general industrial and chemicals industries
Other products and services(9)	$ 22.4	1%			Waste treatment services and water treatment chemicals
Eco subtotal	**$ 382.9**	**24%**			
Total sales(1)	**$1,567.0**	**100%**			

(1) Sales and percentages include our proportionate share of sales from our Catalyst joint ventures, which for the year ended December 31, 2015 were $159.8 million.
(2) Supply positions are based on management's estimates and reflect positions for the end-uses of our products. Supply position data relating to our Eco business reflect its supply position in the United States.
(3) Excludes $10.2 million of intercompany sales between the Performance Chemicals business and the Specialty Glass Materials business.
(4) Catalysts are marketed on a global basis and as such, supply share is calculated accordingly.
(5) Specialty zeolite-based catalysts are a product of our Catalyst joint ventures. Includes our 50% share of our Catalyst joint ventures.
(6) Number one in metal finishing, spheriglass and conductives; number two in hollow glass spheres.
(7) Number one in metal finishing and spheriglass; number two in hollow glass spheres.
(8) Excludes $0.4 million of intercompany sales between the Specialty Glass Materials business and the Performance Chemicals business.
(9) Other products and services exclude abatement revenue of $6.0 million.

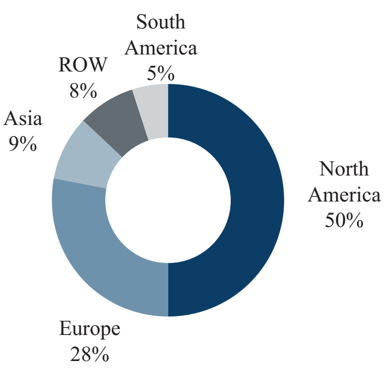
Performance Chemicals

Our Performance Chemicals business is an integrated silicate technology producer with leading supply positions in North America, Europe, South America and Asia-Pacific. Our Performance Chemicals produces inorganic products in six main categories: (i) Sodium Silicate, (ii) Specialty Silicas, (iii) Zeolite Products, (iv) Spray Dry Silicates, (v) Magnesium Silicate and (vi) Other Specialty Chemicals. Our silicate products and solutions and derivative products are used in a variety of end-uses such as adsorbents for surface coatings, clarifying agents for beverages, cleaning and personal care products. From 2005 to 2015, our Performance Chemicals business achieved a 5.4% sales CAGR and an 8.6% Adjusted EBITDA CAGR; our ability to grow throughout economic cycles was driven by the diverse consumer and industrial end-uses for our products, our local relationships and the global scale of our business. Our products are essential building blocks that impart critical performance characteristics in our customers' end-products, yet typically represent a small portion of our customers' overall end-product costs. Further, our cost structure and strategically located manufacturing facility network is a key competitive strength as many of our products have a very limited economic shipping distance.

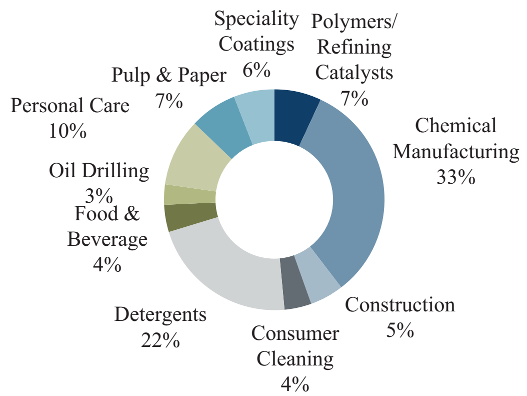
We are a global player and we believe we have leading positions across our portfolio of products. We expect favorable industry and competitive conditions to continue as a result of the attractive, environmentally-friendly attributes of silicates, large investment required to build new production capacity, the lack of cost-effective substitute chemicals for sodium silicate and the low penetration of imported sodium silicate due to significant transportation costs and our short delivery cycle times.

Many of our product lines have experienced growth due to our development of new product applications and new silicate formulations with improved performance characteristics, as well as our expansion into emerging geographies. New applications and formulations have enabled us to increase our margins in our Performance Chemicals business. For example, in 2013 we doubled the capacity of our Indonesian facility to address demand for our precipitated silicas used in toothpaste. We have also leveraged our strong R&D competencies to expand into higher value-added products and applications from our core silicate and zeolite platforms. For example, we have developed a zeolite-based titanium dioxide replacement for paints and coatings applications, and we are working on other innovative applications for our zeolites. We are also selling our sodium silicate to customers for use in green tires. In addition, we have recently introduced a sodium-silicate product which we believe has unique performance characteristics that eliminate certain complications that arise in shale drilling. Given the inorganic nature of our products, we have also benefited from a global trend toward more environmentally-friendly chemical solutions. Examples include our spray dried silicates for use in reduced or zero phosphate cleaning products and our silica gels used as blending agents in coatings applications. The following charts show our Performance Chemicals business's sales by region and end-use for the year ended December 31, 2015.

Sales by Region (Year Ended 12/31/15)



Sales by End-Use (Year Ended 12/31/15)



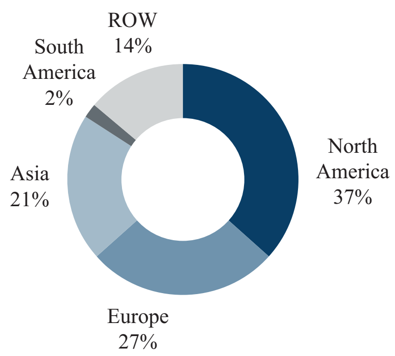
The Performance Chemicals business accounted for $675.2 million, or 43%, of our pro forma sales for the year ended December 31, 2015.

Catalysts

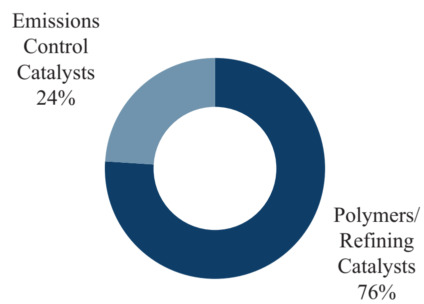
Our Catalysts business is an integrated silica catalyst and specialty zeolite-based catalyst producer with leading global supply share positions. Our Catalysts business is managed through two reporting business units: Silica Catalysts Product Group and Catalyst joint ventures. In our Silica Catalysts Product Group, the majority of products that we sell are used in the production of HDPE, a high strength and high stiffness polyethylene used in demanding applications such as large-part blow molding, film and pipes. In our Catalyst joint ventures, we produce specialty zeolite-based catalysts that are sold to the emissions control industry, the petrochemical industry and other areas of the broader chemicals industry. We have achieved a 12.9% sales CAGR and a 13.6% Adjusted EBITDA CAGR in our Catalysts business from 2005 to 2015, throughout economic cycles, driven by our highly innovative products providing critical functionality and our leading industry positions and broad customer reach. We believe that our products are mission critical for multiple industries and impart vital functionality in the production of chemicals and basic materials and the reduction of emissions in engines. Our Catalysts business maintains a highly technological and customized product offering with development times routinely ranging from 5 to 10 years, a versatile product structure that allows for continued innovation and customization, and an alignment with industry leading customers in attractive end-uses. The Silica Catalysts Product Group is also leveraging its technical expertise to develop new catalyst products for novel end-uses involving new and more efficient pathways for producing industrial chemicals, including MMA and ethyl acetate.

The following charts show our Catalysts business's sales by region and end-use for year ended December 31, 2015.

Sales by Region (Year Ended 12/31/15)



Sales by End-Use (Year Ended 12/31/15)



The Catalysts business accounted for $218.0 million, or 14% of our pro forma sales for the year ended December 31, 2015.

Silica Catalysts

In our Silica Catalysts product group, the majority of products that we sell are used in the production of HDPE, a high strength and high stiffness polyethylene used in demanding applications such as large-part blow molding, film and pipes. HDPE demand is expected to continue to grow globally at an average of approximately 5% annually from 2014 to 2019. We expect that capacity additions in Asia will drive near-term growth. In the longer term, we expect there will be additional HDPE capacity in North America as announced ethylene capacity comes on-line driven by the U.S. shale gas transformation. We have collaborated closely with major process licensors to qualify our catalysts in existing and newly licensed HDPE production facilities, and with our key customers to customize our catalyst products to offer unique HDPE products in their end-uses. Therefore, we expect our Silica Catalysts product group to grow at a more rapid pace than the overall HDPE industry.

The Silica Catalysts product group is also leveraging its technical expertise to develop new catalyst products for other end-uses involving new and more efficient pathways for producing industrial chemicals, including MMA and ethyl acetate, and in the rapidly developing field of converting natural gas to transportation fuel. We have proven the technical and commercial viability of several of these new products with our customers, have entered into long-term contracts for certain of them, and expect them to meaningfully contribute to future sales growth.

Specialty Zeolite-Based Catalysts

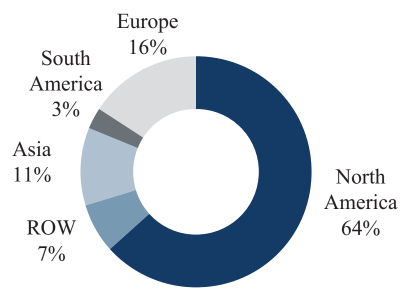
In our Catalyst joint ventures, we produce specialty zeolite-based catalysts that are sold to the emissions control industry, the petrochemical industry and other areas of the broader chemicals industry. Representative applications include emissions control catalysts used to remove impurities in gasoline, Light-Duty Diesel (“LDD”) and HDD; hydrocracking catalysts used to maximize output of higher value middle distillate from refining of crude oil; specialty catalysts used in de-waxing lubricants and fuel oil; isomerization catalysts which maximize the output of para-xylene in polyester manufacturing; and chemical synthesis catalysts used to produce caprolactam, propylene oxide and other materials. We believe that the continued tightening of diesel emissions standards in the United States, Europe, Japan and eventually in China and India will provide our business significant and sustained growth opportunities for our emissions control catalyst technology. In addition, we plan to continue to diversify the applications for our emissions control catalyst technology to non-road and stationary applications. We have proven the technical and commercial viability of some of these projects, have built strong customer relationships based on these proven capabilities, and expect that they will meaningfully add to the future growth of the business.

Specialty Glass Materials

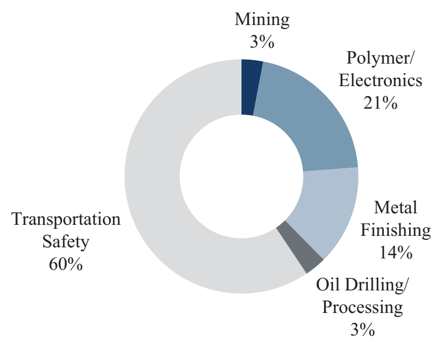
Our Specialty Glass Materials business is the industry leader in North America and is comprised of the Highway Safety and EGM product groups. Highway Safety manufactures glass beads used for airport, highway and road safety applications to improve visibility in wet and nighttime driving conditions. These beads are primarily sold to state municipalities, highway contractors and paint / thermoplastic producers under the Potters brand. Engineered Glass Materials produces solid and hollow glass spheres for use as polymer additives and fillers in specialized plastics, as engineered peening beads in metal finishing and as conductives in consumer electronics and other applications. We have achieved a 3.1% sales CAGR and a 3.9% Adjusted EBITDA CAGR in our Specialty Glass Materials business from 2005 to 2015, in spite of economic downturns, driven by our diverse consumer and industrial end-uses and our ability to innovate and drive product and service differentiation in our core business. Our superior customer service, in combination with strong, long-term relationships that have fostered close technical collaboration, along with our global footprint and technical capabilities, provide our Specialty Glass Materials business with a distinct competitive advantage.

The following charts show our Specialty Glass Materials business’s sales by region and end-use for the year ended December 31, 2015.

Sales by Region (Year Ended 12/31/15)



Sales by End-Use (Year Ended 12/31/15)



The Specialty Glass Materials business accounted for $290.9 million, or 19%, of our pro forma sales for the year ended December 31, 2015.

Transportation Safety

In the Transportation Safety product group, we manufacture reflective glass beads used in highway and airport lane markings, guardrails, barriers and delineation. These glass beads are used with a variety of binders (including waterborne and solvent borne paint, epoxy and many others) to improve lane marking visibility. Transportation Safety products are primarily sold to federal and state government agencies, municipalities, highway contractors and airport agencies. Demand for our Transportation Safety products has grown as a result of increased spending for maintenance and upgrade of existing roads and the construction of new roads by government agencies around the world. Demand for our Transportation Safety products is principally driven by replacement demand and new roads. Demand has steadily grown through economic cycles. Single lane markings are typically funded by taxes on gasoline and are not typically tied to economic cycles or to the state and local government budgeting process. The U.S. government has taken an active role in implementing regulations and initiating infrastructure development to improve transportation safety. These regulations are supported by the government's emphasis on upgrading the aging U.S. highways, translating into consistent government expenditure. The Transportation Safety product group accounted for $175.8 million, or 12%, of our pro forma sales for year ended December 31, 2015.

Engineered Glass Materials

In the EGM product group, we sell highly-specialized solid and hollow glass spheres and metal coated particles that are used in a variety of applications such as plastic additives, conductives, metal finishing and other industrial and consumer applications. When used as plastics additives, these spheres are a cost-effective means to improve dimensional stability and reduce shrinkage and warping of plastic molded products. Metal coated spheres provide conductivity in consumer electronic applications. Spheres can be used as blasting media for cleaning, finishing and peening high performance metals used in automotive, aerospace and other manufactured products and components. The EGM product group accounted for $115.1 million, or 7%, of our pro forma sales for the year ended December 31, 2015.

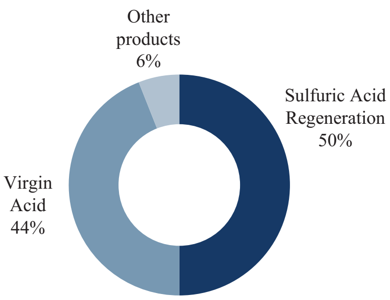
Eco

Our Eco business is an integrated merchant sulfuric acid producer with the number one supply share position in the United States in both sulfuric acid regeneration and the production of virgin sulfuric acid for merchant sales. Eco operates through two principal product groups: Sulfuric Acid Regeneration and Virgin Sulfuric Acid. Our Sulfuric Acid Regeneration business recycles spent sulfuric acid into fresh sulfuric acid for continuous supply to the oil refining industry. Refineries utilize sulfuric acid as the primary catalyst in the alkylation process which produces high octane gasoline blending additives. Our Virgin Sulfuric Acid business produces high quality virgin acid products from sulfur and other raw materials for supply to a wide range of industrial end-users in the United States. There are a variety of end-uses for Eco's products including the nylon, mining, general industrial and chemicals industries.

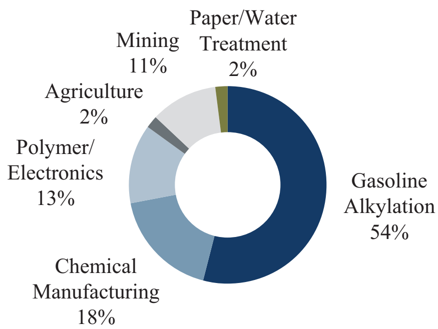
We have achieved a 4.1% sales CAGR and a 3.2% Adjusted EBITDA CAGR from 2005 to 2015 in our Eco business. Our ability to grow throughout economic cycles was driven by our industry-leading integrated product and service offering and the critical, non-discretionary nature of our product. We believe we operate in a consolidated industry with attractive fundamentals and significant capital costs associated with new sulfuric acid plants. Our integrated network of plants and logistics assets, which are integrated into our customers' supply chains, are difficult to replicate and provides us with a significant competitive advantage and deeply entrenched customer relationships. We have established our leading industry share position in merchant sulfuric acid through a long and continuous operating history and the consistent delivery to our customers via integration into their supply chains. Our core operating value of "absolute reliability" reflects the critical, non-discretionary aspect of sulfuric acid usage from the perspective of our customers, who generally cannot operate without consuming sulfuric acid on a continuous basis.

The following charts show our Sulfuric Acid business's sales by region and end-use for the year ended December 31, 2015.

Sales by Product (Year Ended 12/31/15)



Sales by End-Use (Year Ended 12/31/15)



The Eco business accounted for $382.9 million or 24% of our pro forma sales for the year ended December 31, 2015.

We recently entered into a contract to convert our Lake Charles refinery from a captive acid plant to one serving our Sulfuric Acid Regeneration business, which will add $7 million to $8 million to our contribution margin starting in the second quarter of 2016.

In the Sulfuric Acid Regeneration market, our Eco business holds a 65% market share in the West Coast region, a 25% market share in the Midwest region and a 61% market share in the Gulf Coast region.

Geographic Footprint

We operate 68 manufacturing sites in 16 countries on six continents. With the exception of our sulfuric acid plants, the majority of our products are produced by fusing raw materials inputs in a high temperature furnace, and either processing or mixing these fused compounds with other inputs such as water. We are the only manufacturer of sodium silicates and engineered glass materials producing in each key geographic region: North America, Europe, Asia-Pacific and Latin America. Silicate plants are spread out locally with a few larger dedicated units for derivative production. Given this industry structure, our geographic footprint is closely aligned with our key customers. Our highly-efficient network of plants provides us with a strong competitive position. This dynamic is amplified by the cost effectiveness of expanding existing capacity to meet customer needs compared to the cost, delay and permitting complications of building "greenfield" plants.

Further, our Specialty Glass Materials facilities are also strategically positioned in close proximity to our customers, a competitive advantage in an industry where the ability to provide products "on-demand" is critical; our extensive manufacturing footprint and close proximity to customers allow us to respond quickly to demand resulting from unfavorable weather conditions or for short-lead time road development projects.

Our sulfuric acid plants are located in key refining zones, often co-located with or pipeline connected to our customers, and areas of virgin sulfuric acid demand in the Unites States.

The majority of our sites, excluding our sulfuric acid plants, in North America, Europe, Latin America, Australia, Thailand and China are ISO-9001 certified and ISO-14000 certified.

Raw Materials

Our leading industry position and global scale allow for competitive contracts with suppliers. The major raw materials that we use include soda ash, sand, ATH, glass cullet, spent sulfuric acid and sulfur. While natural gas is not a direct feedstock for any product, all businesses utilize natural gas powered furnaces to heat raw materials and create the chemical reactions necessary to produce end-products. We maintain multiple suppliers wherever possible, hedge exposure to fluctuations in prices for natural gas purchases in the United States, make forward purchases of natural gas in the United States, Canada, and Europe to mitigate our exposure to price volatility, and structure our customer contracts to allow for the pass-through of raw material and natural gas costs. See "Risk Factors—Risks Related to Our Business—If we are unable to pass on increases in raw material prices, including natural gas, or to retain or replace our key suppliers, our results of operations and cash flows may be negatively affected." We also maintain a raw material quality audit and qualification program to ensure that the material we purchase satisfies stringent quality requirements.

The Performance Chemicals business's major raw materials include soda ash, industrial sand, ATH and sodium hydroxide. The Catalysts business's raw materials include sodium silicate, acids and bases, and certain metals. The key raw material for the Specialty Glass Materials business is cullet, which is glass sourced from glass recyclers around the world. Cullet is generally in ample supply from local recyclers in the regions in which we operate. The Eco business's raw materials include spent sulfuric acid and sulfur. These raw materials, in general, are widely available.

Sales and Marketing

Performance Chemicals

Our Performance Chemicals business utilizes both a direct sales force as well as established chemical distributors to market our broad array of products. For most customers, our direct sales force calls on the customer, supported by our experienced technical staff. Our global sales force and technical staff employ a proactive and consultative approach to the sales process. In many cases, particularly in specialty products, the sales force assists our R&D team with the design and development of new products for a client's specific needs.

Catalysts

Our Catalysts business utilizes a global direct sales force, supported by sales agents and distributors in certain countries where appropriate, to market our broad array of products. Our global sales force, supported by an experienced technical staff, employs a proactive and consultative approach before, during and after the sales process. In many cases the sales force and technical experts from our R&D facilities assists with the design and development of new products for a client's specific needs.

Specialty Glass Materials

Our Specialty Glass Materials business primarily utilizes a technically-trained internal sales force to market our product offerings in each geographic area we serve. Our Specialty Glass Materials business sells Transportation Safety products directly to road striping contractors and original equipment manufacturers through regional sales managers in North America, Europe and Asia-Pacific, and sells to states and municipalities through a bid process handled by corporate staff. EGM products are sold through a direct sales force and network of distributors.

Eco

The Eco business utilizes a seasoned direct sales force to market our products and services. We also utilize established chemical distributors to market virgin sulfuric acid and aluminum sulfate. Our sales force and product stewardship staff employ a proactive and consultative approach before and throughout the duration of the long term contracts. In many cases our sales force and product stewardship staff provide technical assistance to customers for the safe handling and storage of our products.

Research & Development

We benefit from the highly-skilled technical capabilities of our employees dedicated to new product development. We operate five R&D facilities in the United States, Canada, the United Kingdom, the Netherlands and France. Our R&D activities are directed toward the development of new and improved products, processes, systems and applications for customers. Our R&D team is organized to support each of the operating businesses and staffed with experienced scientists, technical service representatives and process engineers with direct knowledge of the products offered. This business group-oriented team structure provides strong links between product development, manufacturing and customer specifications. Strong linkage to customer specifications ensures that product development efforts are timely and relevant to real world requirements, while close ties to manufacturing ensures that new products can be produced in a profitable manner. Product development activities are organized into R&D projects that are subjected to regular stage-gate reviews by the business management team. As a result, our R&D teams are able to reduce the product development time and allow for rapid introduction of new products. We believe we are one of the only producers in the industries we serve that offers product development and technical support services on a global basis. Pro forma R&D expenses were approximately $10.3 million, $9.1 million and $8.7 million in the years ended December 31, 2015, 2014 and 2013, respectively.

Competition

Some of the industries and geographies in which we operate for the Performance Chemicals, Catalysts, Specialty Glass Materials and Eco businesses are highly competitive, and this competition could harm our business and our corresponding results of operations, cash flow and financial condition. The sales dynamics in Europe and certain Asia-Pacific regions for Performance Chemicals, Catalysts and Specialty Glass Materials are particularly competitive due to the number of regional competitors. In the Performance Chemicals business, our competitors range from large international companies, such as OxyChem and W.R. Grace, to a large number of smaller regional companies of varying sizes. In the Catalysts business, our competitors include Clariant, Tosoh and W.R. Grace. In the Specialty Glass Materials business, our competitors include Sovitec and Swarco, among others. In the Eco business our competitors include Chemtrade Logistics, Inc., The Chemours Company and PVS Chemicals, Inc., for regenerated sulfuric acid and also includes by-product producers, namely U.S. and Canadian copper, zinc and other metal smelters in virgin sulfuric acid.

Customers

The average length of our relationships with our top 10 customers is over 50 years. We have over 4,000 customers across our four principal businesses. Our customers include AkzoNobel, Albemarle, Anheuser-Busch InBev, BASF, Chevron, Colgate-Palmolive, Dow Chemical, Evonik, ExxonMobil, GlaxoSmithKline, Halliburton, Henkel, Honeywell, INEOS Group, Johnson Matthey, LyondellBasell, Procter & Gamble, Rio Tinto, SAB Miller, SABIC, Schlumberger, Sherwin-Williams, Umicore, Unilever, W. R. Grace and 3M. Additionally, we have a diversified customer base, with our top 10 customers representing 25% of pro forma sales for the year ended December 31, 2015 and no single customer representing more than 4% of pro forma sales for the same period. However, our Eco business generates a significant portion of its net sales from a small number of customers. See "Risk Factors—Risks Related to our Combined Business."

Intellectual Property

We own or have rights to a large number of patents relating to a large number of products and processes. On a pro forma worldwide basis, as of December 31, 2015, we own over 50 patented inventions, with approximately 280 patents issued in countries around the world and approximately 145 patent applications pending worldwide covering more than 15 additional inventions. Our patent portfolio in the aggregate, combined with our trade secrets, institutional know-how and extensive manufacturing and product experience and knowledge, reinforces our competitive advantage. As of December 31, 2015, we also owned approximately 530 trademark registrations, including 72 U.S. trademark registrations and 42 pending trademark applications, including six pending U.S.

applications. In addition to our registered and applied-for intellectual property portfolio, we also claimed ownership in certain trade secrets developed by and used in our business. Including our joint ventures, we are party to certain arrangements whereby we license in the right to use certain intellectual property rights in connection with our business.

Employees

As of December 31, 2015, our domestic and international operations consisted of 2,983 employees, of which 1,432 were employed in the United States and 438 were employed in Canada, Mexico and Brazil. We also have 813 employees throughout Europe, 33 in South Africa and 94 in Indonesia. Our remaining employees are dispersed throughout the Asia–Pacific region, primarily in Australia, China, Thailand and Japan. As of December 31, 2015 on a pro forma combined basis, approximately 40% of our employees were represented by a union or workers council. We believe we have good relationships with our employees and their respective work councils and/or union representatives.

Environmental Regulation

Our operations and properties are subject to extensive and stringent federal, state, local and foreign environmental laws and regulations, including those concerning, among other things, emissions to the air, discharges to land, surface, subsurface strata and water and the generation, handling, storage, transportation, treatment, disposal and remediation of hazardous materials. We also are subject to other federal, state, local and foreign laws and regulations regarding chemical and product safety as well as employee health and safety matters, including process safety requirements. These laws and regulations may become more stringent over time and the failure to comply with such laws and regulations can result in significant fines or penalties. For instance, in November 2015, PADEP issued a $1.7 million fine associated with alleged air emissions violations related to excessive short term emissions of carbon monoxide and nitrogen oxides, and excessive long term 12-month rolling sums of the two pollutants, at our Chester, PA, site. We have appealed the alleged violation and associated fine. We also remain subject to a 2007 Consent Decree that resolves certain alleged Clean Air Act violations at our seven Eco operating locations involving NSR, PSD, and NSPS obligations under the federal rules for the pollutants sulfur dioxide and sulfuric acid mist. The Consent Decree required Solvay (the owner at the time) to pay a $2 million penalty and spend approximately $34 million on air pollution controls at our facilities. Work under the Consent Decree has proceeded since 2007, and, we believe that all of the significant capital improvements related to the Consent Decree have been completed. One of our operating locations has been released from the scope of the Consent Decree and we are seeking release of the other locations covered by the Consent Decree. Finally, these laws and regulations require us to obtain environmental registrations, licenses, permits, and other approvals in order to operate and can require us to install expensive pollution control equipment at our facilities or incur other capital expenditures aimed at achieving or maintaining compliance with such laws and regulations. Due to the Business Combination, many of the business' permits need to be transferred or reissued to us. Depending on the permit, this requires either pre or post-closing notification to regulatory authorities or regulatory authority consent.

Our operations are subject to various hazards incidental to the production, use, handling, processing, storage and transportation of significant quantities of hazardous materials. Under certain environmental laws, liability for the cleanup of contaminated sites can be imposed retroactively and on a joint and several basis. We could be held responsible for all cleanup costs at a site, whether currently or formerly owned or operated, and regardless of fault, knowledge, timing or cause of the contamination. In addition, we may face liability for personal injury, property damage, and natural resource damage resulting from environmental conditions attributable to us. As such, a product spill or emission at one of our facilities or during transportation could have severe consequences on the environment and surrounding community and could result in significant liabilities with respect to investigation and remediation. Under certain environmental laws, liability for the cleanup of contaminated sites can be imposed retroactively and on a joint and several basis. As of December 31, 2015, we have current remediation or monitoring obligations at our sites in Rahway, NJ; Dominguez, CA; Martinez, CA; Hammond, IN; Portland, OR and Rio Claro, Brazil, as well as a formerly owned site in Tacoma, WA. The Martinez facility also is involved in a long-term project to remediate and restore the Peyton Slough, an adjacent surface water estuary that was contaminated as a result of historical copper smelting activities on the Martinez site prior to the acquisition of the property. This project is in its final stages. There also is a potential risk that our long-term industrial use of these sites may have resulted in yet to be discovered contamination, which we potentially could be required to investigate and, if warranted, remediate, as liability could be imposed without regard to whether we knew of, or caused, the release of such hazardous substances and, in some cases, liability may be joint and several. Discovery of additional or unknown conditions at our facilities could have an adverse impact on our business by substantially increasing our capital expenditures, compliance or investigation, and remediation costs. Further, we may be jointly and severally liable for contamination at third party sites where we or our predecessors in interest have sent waste for treatment or disposal even if in doing so we complied with applicable laws.

Environmental matters are difficult to assess for numerous reasons, including the discovery of new remedial sites, discovery of new information and scarcity of reliable information pertaining to certain sites, improvements in technology, changes in environmental laws and regulations, numerous possible remedial techniques and solutions, difficulty in assessing the involvement of and the financial capability of other potentially responsible parties and the extended time periods over which remediation occurs. For environmental matters that are probable and estimable, we have recorded a reserve as reflected in the financial statements. Our reserves associated with environmental matters were $9.9 million as of December 31, 2015.

Chemical Product Regulation

As a chemical company, we are subject to extensive and evolving regulations regarding the manufacture, processing, distribution, import, export, and labeling of our products and their raw materials. In the EU, the REACH regulations went into effect in 2007 with implementation rolling out over time. REACH requires registration of chemicals, along with a dossier of toxicological and ecotoxicity test results, or a plan to conduct such tests if currently unavailable. Registered chemicals then can be subject to further evaluation and potential restrictions. Our high-volume chemicals have been registered under REACH; up to 50 lower-volume chemicals (mainly catalysts) will be registered by the 2018 deadline. To date, no testing has been required. A couple of our chemicals are being reviewed under REACH. It is possible this will result in testing requirements, which, depending on the tests, can cost up to several million dollars. Since the promulgation of REACH, other countries (e.g., China, Korea, Taiwan) have enacted and are in the process of implementing similar comprehensive regulation of chemicals. In the United States, legislation is pending that would require the EPA to review and require testing of certain chemicals. Given knowledge of our chemicals and the various regulations promulgated to date, we do not anticipate costly testing requirements or severe restrictions, but cannot guarantee that we will be free of requirements for our products or raw materials that could materially affect our operations. In particular, some of our products might be characterized as nanomaterials and then subjected to evolving new nanomaterial regulations.

Properties

Our operating headquarters are located in Malvern, Pennsylvania. We are a global company operating 68 manufacturing sites in 16 countries on six continents, including 36 Performance Chemicals manufacturing facilities in 14 countries, two Catalysts manufacturing facilities in two countries and 24 Specialty Glass Materials manufacturing facilities in 11 countries throughout the world. We also have 13 administrative facilities and five R&D facilities in nine countries.

The table below presents summary information regarding our principal facilities as of December 31, 2015:

Location	Approximate Square Feet	Business	Owned or leased
Administrative facilities:			
Amersfoort, Netherlands	7,481	Performance Chemicals	Leased
Lenexa, KS, United States	14,489	Performance Chemicals, Catalysts and Specialty Glass Materials	Leased
Malvern, PA, United States	33,000	Performance Chemicals, Catalysts and Specialty Glass Materials	Leased
Research and development facilities:			
Toronto, Canada	2,500	Performance Chemicals	Leased
Eijsden, Netherlands	4,306	Performance Chemicals	Owned
Warrington, United Kingdom	14,155	Performance Chemicals	Owned/Leased
Conshohocken, PA, United States	74,968	Performance Chemicals, Catalysts and Specialty Glass Materials	Owned
Manufacturing facilities:			
Melbourne-Dandenong, Australia		Performance Chemicals and Specialty Glass Materials	Owned (a portion of the facility is leased)
Jacana, Brazil	58,458	Performance Chemicals	Owned
Rio Claro, Brazil	10,724	Performance Chemicals	Owned
Toronto, Canada	75,471	Performance Chemicals	Owned
Valleyfield, Canada	46,000	Performance Chemicals	Owned
Lamotte, France	130,567	Performance Chemicals	Leased
Wurzen, Germany	124,915	Performance Chemicals	Owned
Pasuruan, Indonesia	68,489	Performance Chemicals	Owned
Guadalajara, Mexico	105,866	Performance Chemicals	Owned
Tlalnepantla, Mexico	136,209	Performance Chemicals	Owned
Eijsden, Netherlands	165,850	Performance Chemicals	Owned/Leased
Maastricht, Netherlands	70,073	Performance Chemicals and Catalysts	Leased
Winschoten, Netherlands	134,548	Performance Chemicals	Leased
Delfzijl, Netherlands	38,373	Catalysts	Owned
Warrington, United Kingdom	396,898	Performance Chemicals	Owned/Leased
Augusta, GA, United States	65,178	Performance Chemicals	Owned
Augusta, GA, United States	121,502	Specialty Glass Materials	Owned
Baltimore, MD, United States	19,852	Performance Chemicals	Owned
Brownwood, TX, United States	107,900	Specialty Glass Materials	Owned
Chester, PA, United States	172,707	Performance Chemicals	Owned
Gurnee, IL, United States	96,000	Performance Chemicals	Owned
Jeffersonville, IN, United States	29,052	Performance Chemicals	Owned
Joliet, IL, United States	168,657	Performance Chemicals	Owned
Acid plants:			
Houston, Texas, United States	2,003,760	Sulfuric Acid	Owned
Baton Rouge, Louisiana, United States	13,503,600	Sulfuric Acid	Owned
Dominguez, California, United States	1,437,480	Sulfuric Acid	Owned
Martinez, California, United States	5,096,520	Sulfuric Acid	Owned
Hammond, Indiana, United States	1,132,560	Sulfuric Acid	Owned
Baytown, Texas, United States	348,480	Sulfuric Acid	Owned
Portland, Oregon, United States (Logistics)	1,176,120	Sulfuric Acid	Owned

Legal Proceedings

As part of the INEOS Silicas acquisition in July 2008, we are liable for potential multi-year UK tax benefits. We are contractually obligated to make a payment on an annual basis on our UK taxable results, which can fluctuate period to period, until there is a change in control, as defined in the purchase agreement. As of December 31, 2015 and December 31, 2014, we had accrued $5.4 million and $6.5 million, respectively, for this matter representing the expected payment owed on the calculation of the liability for the tax year ended 2015 and 2014. We recorded these expenses as transaction-related costs in other operating expense, net.

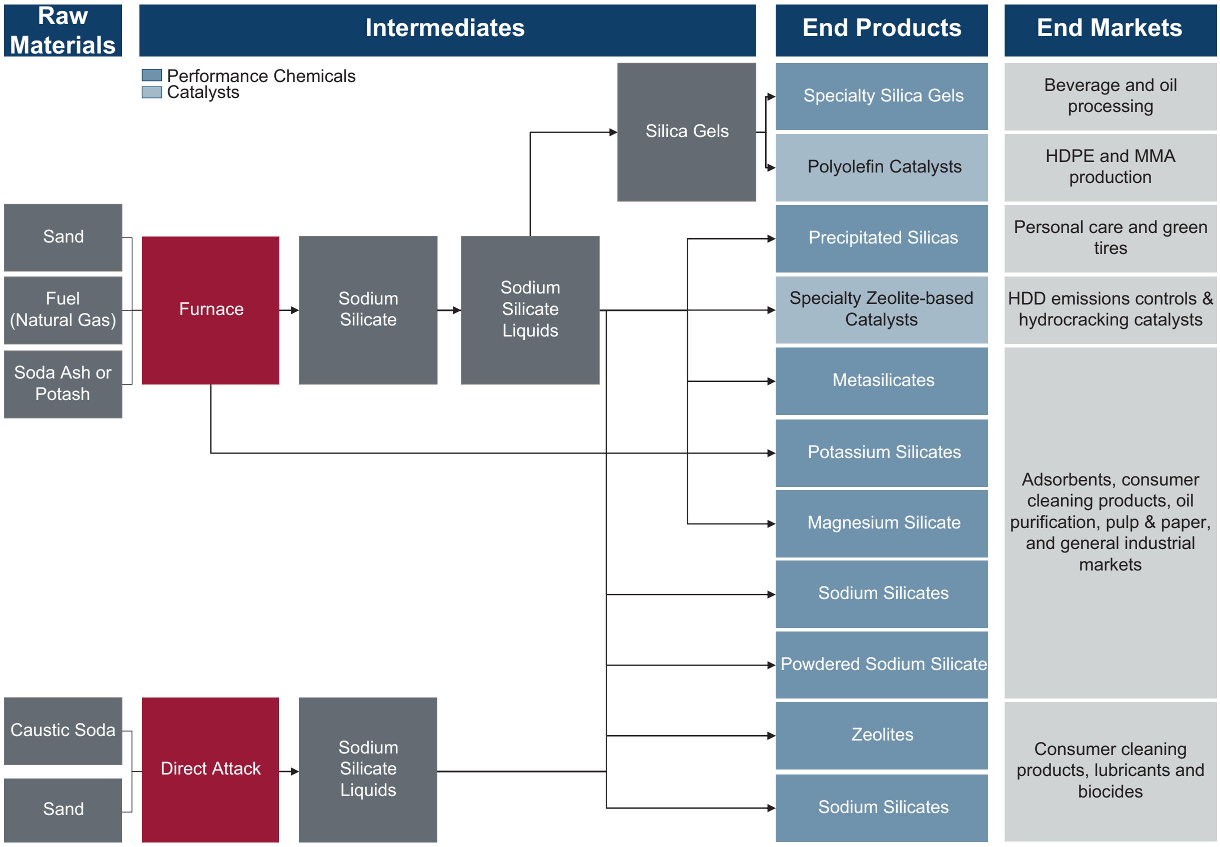
We are subject to various asbestos premises liability claims, which relate to employee or contractor exposure to asbestos contained in certain building materials (e.g., insulation) at our sites. We typically are not named as a single party defendant in these cases and the alleged exposures in cases filed against us tend to be for a shorter time period (e.g., several weeks or months of exposure at our sites out of a claimed total exposure that could total 30 years at other sites). Approximately 110 asbestos exposure claims are currently pending. We completed asbestos abatement from our facilities in the late 1980s and early 1990s. We have a provision on the balance sheet in relation to these claims.

In addition, our business is involved in other claims and legal proceedings which have arisen in the normal course of business. No accrual for these matters currently exists, with the exception of those listed above, because management believes that the liabilities resulting from such lawsuits and claims are not probable or reasonably estimable. We are vigorously defending these claims against us and believe we have reserves and insurance coverage sufficient to cover potential exposures. We do not believe that the liability resulting from these matters will have a material adverse effect on our results of operations or financial position, however, the outcome of individual matters cannot be predicted with reasonable certainty at this time.

INDUSTRY

Performance Chemicals and Catalysts Industry Overview

We compete at various points throughout the silicates supply chain. See below for an overview of the silicates chain and the products that we manufacture:



Performance Chemicals (43% of Pro Forma Combined FY 2015 Sales)

Sodium Silicate (20% of Pro Forma Combined FY 2015 Sales)

Sodium silicates are primarily used as building blocks or performance enhancers for other end products in a wide range of industrial and consumer applications. Sodium silicate production technology is closely held among major North American and European manufacturers, with only a limited number of producers having a meaningful portion of merchant sodium silicate sales. The specific processes to produce different silicates and silicas and their derivatives are proprietary, requiring not only process know-how but significant capital investment.

Sales of sodium silicate are regional in nature. Products cannot be economically transported long distances as the value-to-weight ratio and transportation costs become a limiting factor to sustainable profitability. As a result, silicate plants are spread out locally with a few large dedicated units for derivative production. Given this industry structure, there are limited imports of sodium silicate.

The uses of silicates span a diverse range of applications, including binders and adhesives, stabilizers, corrosion inhibiters and metal scavenging, as well as a cost-effective source of alkalinity. Over the past decade, sodium silicate end-uses have shifted from uses such as powdered laundry and virgin pulp and paper production towards environmentally-friendly alternatives to commonly used chemicals, including fillers for roll-resistant green tires, coatings for recycled paper, geopolymers and reduced or zero phosphate cleaning products. Further, silicate and silicate derivatives are recognized on the EPA's list of Design for the Environment, or the DFE, Safer Chemicals for use in consumer product production.

Sodium silicate derivatives are also used as intermediates in the production of zeolites, precipitated silicas, silica gels, colloidal silicas and other derivatives. We believe certain of these derivative products represent the largest and fastest growing end-use applications for sodium silicate products. Sodium silicate derivative products are key building blocks for the production of silica catalysts, specialty zeolite-based catalysts, CMP slurries and adsorbents in a variety of applications.

Based on industry estimates, from 2013 to 2018, both U.S. and global demand for sodium silicates are expected to grow at an annual rate of approximately 2%. We continue to expect near-term volume for cleaning products, pulp and paper and construction to be consistent with overall economic growth in the United States, though the displacement of less environmentally-friendly chemicals in some higher value applications will continue to grow at a higher rate than the underlying end-uses. Generally, we have experienced growth rates in excess of U.S. real gross domestic product, or GDP, for production of precipitated silica and colloidal silica for use in tires and the computer chip industry.

Specialty Silicas (9% of Pro Forma Combined FY 2015 Sales)

Specialty silicas comprise a range of specialty products classified according to their method of preparation, including silica gels, precipitated silicas, colloidal silica and fumed silica. We manufacture a range of silica gels and precipitated silica products for a variety of end-use applications.

Silica gels are used as adsorbents in beverage and oil processing applications and as functional ingredients in paints and coatings, food and ink jet applications. Our major customers for specialty adsorbents include major breweries, food processors, edible oil refiners and biodiesel producers.

Specialty products serve as adsorbents and clarifiers in the beer production process and we believe are now used by the majority of beer producers. Consumption of specialty silicas in the brewing industry has been relatively stable due to overall global beer consumption trends, which have generally shown consistency through economic cycles. Further, once an adsorbent is specified by a brewer for a specific formulation, it is rare for the brewer to change the suppliers due to taste uniformity and customer loyalty.

Silica gel adsorbents are also used to selectively remove polar impurities from triglyceride oils for edible and industrial applications. Uses of silica products in this application offer a number of cost savings and environmental benefits, while improving quality and yield of the processed oil. We supply adsorbent products for the purification of feedstock for biodiesel production, allowing biofuels producers to use a wider range of waste and non-edible oil feedstocks.

Precipitated silica uses include green tire applications, footwear, batteries, food and healthcare products and agricultural products. In precipitated silicas, we have recently worked with our customers to optimize our manufacturing process for high whitening and desensitizing toothpaste applications that meet an increasingly attractive consumer preference where our products are displacing less environmentally-friendly materials and offering cleaning performance with low abrasion. Growth in this application is driven by rising middle classes in developing regions and consumer demand for natural ingredients and premium branding.

Based on industry estimates, from 2013 to 2018, global demand for specialty silicas is expected to grow at an annual rate of approximately 5%, and U.S. demand is expected to grow at an annual rate of approximately 3%. Rubber applications, tires and footwear are the leading applications for precipitated silica and the fastest growing. Some of the increase in demand for precipitated silica is primarily based on the trend to use fuel-efficient low-resistance tires. The use of silicas with silanes can improve rolling resistance, saving up to 8% of fuel consumption. These "Green Tires" are composed of rubber, carbon black and silica. However, the silica consumption in green tires is double the amount in standard tires, replacing carbon black. The global share of green tires is expected to increase from 15% in 2011 to 34% in 2016 and 40 to 45% by 2018. The volume of precipitated silica in green tires is projected to grow at more than 6% annually during 2013 to 2018, as compared to just above 5% annually during 2013 to 2018 in all other applications.

Zeolite Products (6% of Pro Forma Combined FY 2015 Sales)

Zeolites are produced by combining sodium silicate with aluminum hydroxide and other materials to create a performance intermediate used in a variety of critical use applications. Zeolites are found in a variety of commercial products, including adsorbents and detergents. Historically, zeolites were predominantly used as a key input for the production of detergents. Over the last decade, however, the North American powdered detergent usage has declined as consumer preferences have shifted away from powder detergents to less zeolite-intensive liquid detergents. Since 2000, the demand for zeolite for detergent applications has decreased. As a result, we believe we are the major manufacturer of North American zeolites used in detergents due to our favorable integrated cost position, logistics footprint and capabilities and strong process technology. Zeolites for detergent end-uses now represent a significantly less meaningful product line within our company, as evidenced by its decreasing percentage of global sales from 16% of sales in the year ended December 31, 2009 to 8% of sales in the year ended December 31, 2015.

To address this industry shift which has resulted in available zeolite production capacity, we have aggressively focused on developing new applications for our zeolite technology. As an example, applications we have focused on include stabilizers in the production of polyvinylchloride, or PVC, a titanium dioxide replacement for paints and coatings applications as well as our coatings applications for food grade paper. As we continue to optimize our product offering alongside customers, we expect that these applications will provide important growth opportunities.

Spray Dry Silicate (2% of Pro Forma Combined FY 2015 Sales)

Spray dry silicate is used principally as a soluble solution for consumer cleaning applications. Spray dried sodium and potassium silicates are used in a variety of industrial, personal care and consumer cleaning. Major end-uses include refractory, cleaning compounds, oil processing, hair bleach, fire retardants, water treatment, adhesive, geopolymers and drilling fluids for oil and gas wells.

Magnesium Silicate (1% of Pro Forma Combined FY 2015 Sales)

Based on industry estimates, from 2013 and 2018, both U.S. and global demand for magnesium silicate are expected to grow at an annual rate of approximately 2%. Magnesium silicates are amorphous, water-insoluble powders precipitated from sodium silicate solutions, which function as specialty carriers (especially of oils), flow-control agents and fillers.

Although the end-uses for magnesium silicate are currently small in size, we expect significant growth in magnesium silicate demand in the coming years due to increasing use of frying oils in Asia (e.g., international fast-food chains expanding in China). We expect substantial growth within several years and are expanding production of magnesium silicate in plants in France and the Netherlands.

Catalysts (14% of Pro Forma Combined FY 2015 Sales)

Silica Catalysts (4% of Pro Forma Combined FY 2015 Sales)

The silica catalysts we produce are principally used in the production of HDPE, MMA and the synthesis of other organic materials. HDPE is utilized in the manufacturing of plastic containers, pipes, wire and cable claddings, films for bags and geo-membranes, gas and sewer and a variety of other applications. According to industry sources, global HDPE consumption is expected to grow by approximately 5% annually from 2014 to 2019 and will be driven by the general level of economic activity and the increased utilization of HDPE as a substitute for heavier and more expensive materials such as glass and metals. Further, we believe that we will disproportionately benefit from the increased HDPE capacity coming on stream in the United States, where we believe our position is strong, as a result of resin producers benefitting from advantageous feedstock sources derived from the favorable U.S. shale gas position.

Typically, these catalysts are specified by process licensors to produce resins with specific properties. As a result, these catalysts are often covered under long-term supply agreements and we are often our customers' sole source supplier. Catalyst products are typically developed alongside end-users, with significant upfront time required in order to ensure that specifications are appropriately met.

Silica catalysts are also sold for chemical synthesis uses. For example, we are the supplier of catalyst to a leading producer of MMA for use in its proprietary MMA production process. MMA is a clear, scratch-resistant plastic that is used in sheet-form to replace glass, surface coatings and molding compounds. According to industry sources, the demand for MMA is expected to grow by approximately 3% annually from 2014 to 2019.

We continue to prudently invest in new applications for our high growth and high margin catalysts. We are developing catalyst technology for use in gas-to-liquid conversion and other organic synthesis applications with select customers and will invest in these new technologies in a disciplined fashion as we see the commercial viability and user acceptance.

Specialty Zeolite-Based Catalysts (10% of Pro Forma Combined FY 2015 Sales)

Favorable industry dynamics, including (i) stringent emissions control standards and recovery in LDD & HDD engine production, (ii) increase in nylon demand in Asia, and (iii) increase in refinery capacity, especially for processing low-grade crude oil, are driving strong demand growth for specialty zeolite-based catalysts.

As global awareness and action against environmental issues posed by pollution / emissions from stationary and mobile sources has risen, so has the importance of emissions control catalysts. The tightening of emissions standards in the U.S., continual tightening in Europe, and the planned tightening in Japan and Korea for LDD and HDD engines have contributed to meaningful demand growth for specialty zeolite-based catalysts in recent years and will continue to support growth in the future.

Increasing regulations in both on and off-road heavy duty diesel engines is expected over the next years, including regulations related to the Euro VI emissions standards issued by the European Union. Despite limited regulations in emerging markets, major HDD engine producers are likely to adopt a globally regulated engine model.

New legislative trends will affect production of heavy duty diesel vehicle regulated engines. Within Europe, post the implementation of Euro VI, there are advanced discussions regarding U.S. GHG type legislation. The expectation is that the introduction in 2019 to 2020 of stricter Stage V emission limits for non-road machinery will increase demand for catalysts. In Asia, China's Euro IV nationwide from January 2015 has driven volumes. Between 2014 and 2020, industry sources estimate global HDD engine production growth of approximately 11%. North America expects GHG regulations to tighten in 2020 and tighter NOx standards may be implemented. Hence, growth there is expected to be slower.

New legislative trends will affect production of light duty vehicle regulated engines as well. Regulations including Euro VIb, for diesel engines, and Euro VIc, for gasoline engines are expected to drive catalyst sales growth. North America Tier 3 regulations are on track for 2017 implementation with expected associated LDD engine growth to be moderate. Between 2014 and 2020, industry sources estimate global LDD engine production growth of approximately 4%.

Caprolactam is an organic compound that is an intermediate in the production of nylon. We produce a custom product / catalyst called titanium silicate or TS-1 that is used in the catalytic process to produce caprolactam. TS-1 use in the production of caprolactam is a key component in the "green" redesigned manufacturing process of nylon, particularly in the developing world. As of 2013, Chinese customers represented a 33%, and growing, share of global caprolactam demand. According to industry sources, Chinese demand for caprolactam is expected to grow at an annual rate of approximately 8% from 2013 to 2018.

Oil refinery cracking processes enable the production of gasoline and other lighter products from sour, heavier crude oil and residues. Hydrocracking is a major source for producing diesel fuel, jet fuel, gasoline components and liquefied petroleum gas. The rate of cracking and the end-products produced are strongly dependent on the temperature and presence of hydrocracking catalysts. Through Zeolyst International, we provide various specialty zeolite-based hydrocracking catalysts that deliver an excellent balance between the desired yield targets, product properties and extended lives.

We sell hydrocracking catalysts to oil refineries and other petrochemical manufacturers as a consumable that must be replaced on a periodic basis (every three to five years).

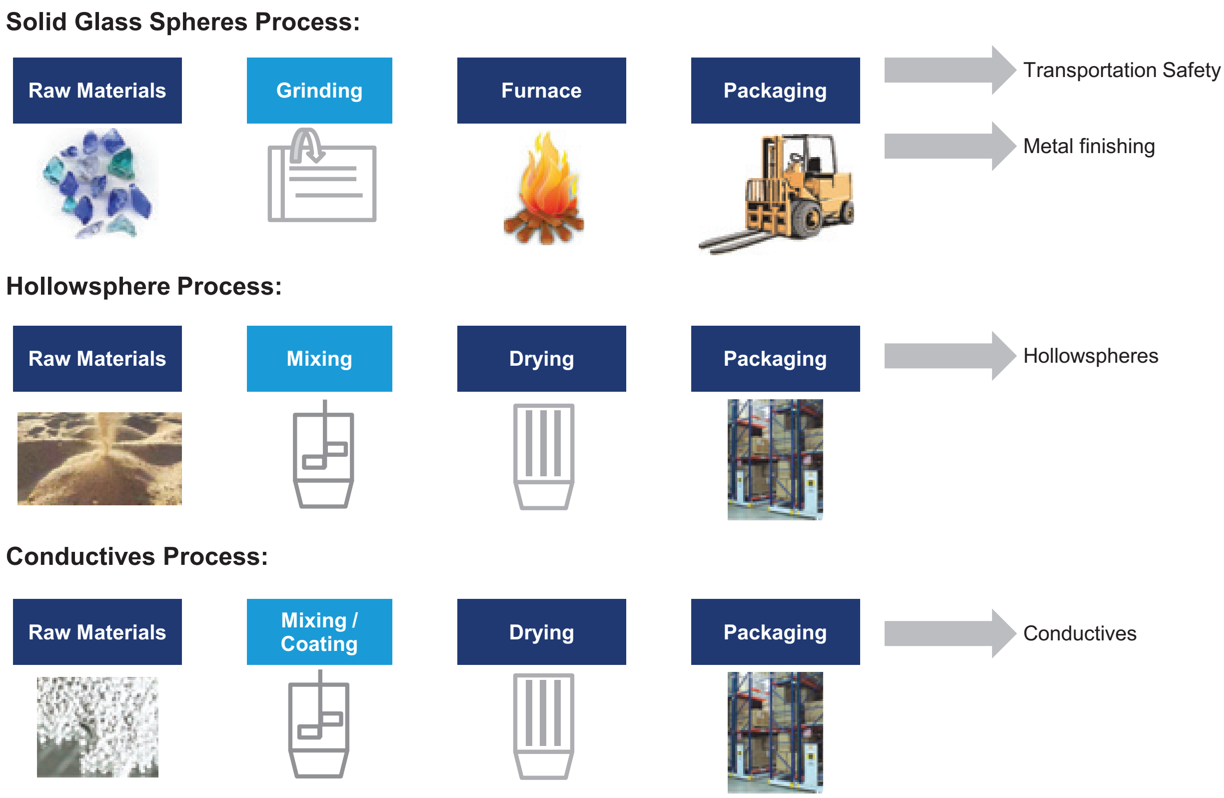
Although the input costs of hydrocracking catalysts are small when compared to the overall variable raw material costs for operating a refinery, the impact to a refiner for utilizing low quality or contaminated catalysts could be extremely high. As a result, refiners choose to purchase high quality catalysts from well-known manufacturers, and typically value performance and reliability over price when making buying decisions. Global demand for the critical hydrocracking process is expected to continue to drive the demand for hydrocracking catalysts.

In addition to hydrocracking catalysts, we also produce specialty and custom catalysts which are primarily developed for paraxylene isomerization, upstream intermediates in the manufacturing of polyester and isobutylene isomerization for the production of methyl tertiary butyl ether, or MTBE, a fuel oxygenator.

Another important area of growth for specialty zeolite-based catalytic technology is in gas-to-liquid conversion. With the improvement in natural gas drilling techniques and large natural gas discoveries in North America, there are opportunities to use catalysts in patented technologies that convert natural gas to chemical components that would otherwise require naptha as a precursor.

Specialty Glass Materials (19% of Pro Forma Combined FY 2015 Sales)

Our Specialty Glass Materials business produces glass beads for use in transportation safety as well as for a range of consumer electronic, automotive and construction applications. Our Specialty Glass Materials business uses a variety of methods to manufacture its beads, depending on the end-use application. For both Transportation Safety products and other engineered glass products, our Specialty Glass Materials business begins by crushing raw materials (e.g., glass cullet), forming beads in a furnace and then finally coating or treating the beads to meet end customer specifications. The beads are then collected, bagged and stocked for shipment. See the figure below for our Specialty Glass Materials business's production process:



Transportation Safety (12% of Pro Forma Combined FY 2015 Sales)

Highway safety spending is characterized by the following key trends and growth drivers: predictable, ongoing replacement demand, infrastructure spending, increased public awareness of the social and taxpayer costs of highway fatalities, wider lines, brighter lines, edge lines, double lines and product innovation. We expect highway safety to benefit substantially over the next several years from U.S. government highway spending fueled by factors such as (i) the aging U.S. highway system, (ii) increased government focus on the reduction of driving-related injuries and fatalities, (iii) the aging of the U.S. population, which increases the need for greater line visibility, and (iv) increased public awareness of the costs associated with such injuries and fatalities. Strong demand from international sources is expected as a result of growth in construction of road infrastructure in developing economies, such as Eastern Europe and Asia, as well as road maintenance spending in developed nations.

U.S. federal highway spending has increased thirteen of the past fifteen years and is expected to grow at a 2.18% CAGR between 2015 and 2020, driven by the aging of the U.S. population and the government's increased focus on highway safety. A significant percentage of our Highway Safety sales result from the upgrade of existing roads with new engineered glass. Furthermore, road maintenance and road construction spending has historically been resilient during economic downturns as they are often utilized as a form of government stimulus. Based on industry estimates, North American public highway and highway safety spending is expected to grow at an annual rate of approximately 5% per year through 2018.

We are the industry leader in Highway Safety products in the Americas as a result of our leading products and technology, key strategic acquisitions and commitment to service. Europe remains more fragmented relative to North America. PQ, Sovitec and Swarco have a large combined share followed by Chinese imports, which supply the remaining portion. We believe that there are ample consolidation opportunities in the more fragmented European region in the near to medium-term. Chinese imports currently represent a small share of the North American and Latin America regions and a larger share of Asia.

Engineered Glass Materials (7% of Pro Forma Combined FY 2015 Sales)

EGM products are highly-specialized solid and hollow glass spheres and metal coated particles used in conductive materials, polymer additive and metal finishing end-uses.

These highly-specialized solid and hollow glass spheres are used as a low-cost, lightweight and anti-warping additive in polymer compounds used in plastics manufacturing. Certain spheres are reduced to be used in water soluble or insoluble applications. Other applications include industrial explosives, oil and gas drilling mud and a variety of other industrial and consumer applications.

In industrial finishing processes, engineered glass materials are propelled from blasting equipment to clean, peen, debur and finish items such as airplane and turbine compressor blades and other specialized parts. Peening offers engineers the ability to design lighter, thinner parts while maintaining part strength. Glass impact spheres are a preferred substitute for other products such as industrial sand, aluminum oxide, iron or steel, as they allow for better process control, limit surface contamination and are environmentally-friendly. Conductive particles are used in consumer, industrial, medical and military electronics devices.

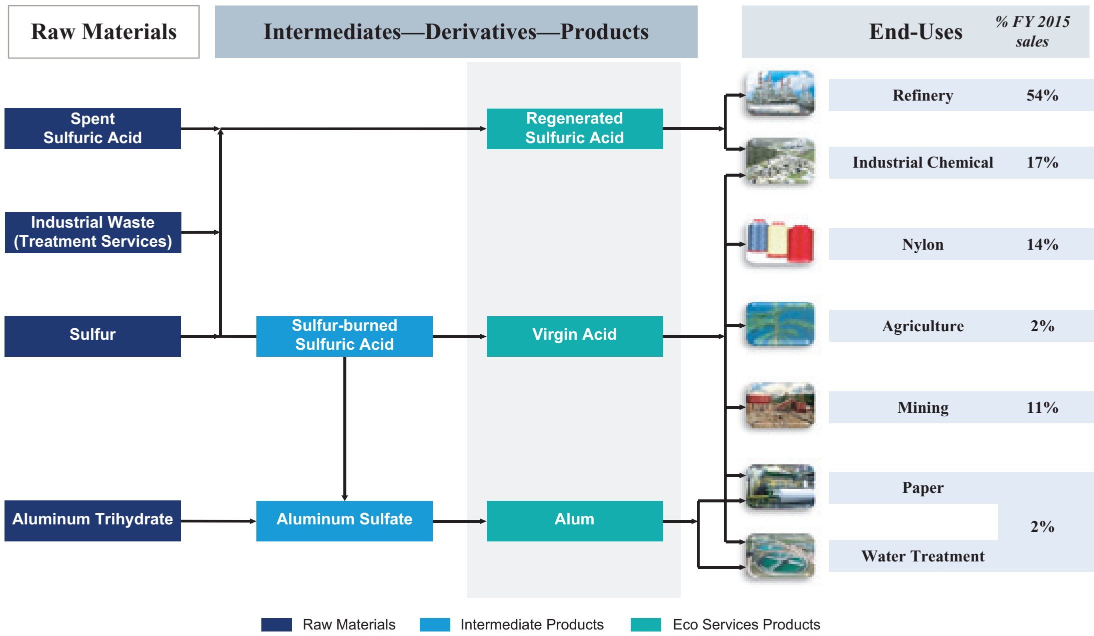
Growth in polymer additives is driven by increased demand for high value-added polymers requiring unique surface and strength/weight considerations. Demand for conductive materials is driven by new applications for telecommunication infrastructure and other consumer electronics. Recovery in manufacturing, mining, oil and gas and energy drilling activity is expected to drive increased demand for our EGM products.

Eco Overview

Eco (24% of Pro Forma Combined FY 2015 Sales)

Sulfuric acid is one of the largest-volume industrial chemicals produced in the world, with the United States accounting for approximately 16% of global production. It is generally used as a process chemical (for example, it is used as an acidulating agent, catalyst and dehydrating agent) or in some similar function. Its wide use in these functions is due largely to its low cost. It is an important raw material in the manufacture of phosphate fertilizers. Since sulfuric acid is not “consumed” as a reactant in many of its uses, substantial quantities of contaminated waste acid and/or sulfate salts remain as by-products of various processes. Some waste acid can be reused or used as feedstock at sulfuric acid plants capable of burning sludge.

We are the leading producer of merchant sulfuric acid in the United States, the largest chemical product used in the United States by volume, with an operating history dating to the 1880s. We hold the number one supply share position in the United States in both sulfuric acid regeneration and the production of virgin sulfuric acid for merchant sales. Sulfuric acid regeneration is the process of recycling spent sulfuric acid into fresh sulfuric acid for continuous supply to the oil refining industry, which uses sulfuric acid in the production of alkylates for gasoline blending. Virgin sulfuric acid is created by manufacturing sulfuric acid products from sulfur and other raw materials. It is used for supply to a wide range of industrial end-users, including the nylon, mining, general industrial and chemicals industries.



Sulfuric Acid Regeneration (12% of Pro Forma Combined FY 2015 Sales)

Sulfuric acid serves as a key catalyst for refineries in the production of alkylate, a component in gasoline blending. Alkylate is considered to be the best blending component for gasoline because of its superior ability to boost octane and its low vapor pressure relative to substitutes such as ethanol and butane. As of 2014, approximately 45-50% of North American refineries with alkylation capability refining capacity of over 100,000 BPD utilized sulfuric acid alkylation technology and approximately 52% utilize hydrofluoric acid alkylation technology. Sulfuric acid alkylation is the preferred technology from a health, safety, and environmental perspective, but the switching costs to change from one alkylation technology to another is extremely high. No refinery in North America has made the transition from using hydrofluoric acid alkylation to using sulfuric acid alkylation. Sulfuric acid alkylation is typically utilized in larger refineries with alkylation units using sulfuric acid as the key catalyst in the alkylation of olefins with isobutane. Once used in an alkylation unit, the sulfuric acid becomes diluted with water and hydrocarbons, becoming “spent” and needing to be recycled. From a regulatory standpoint, sulfuric acid regeneration is the only feasible way for refineries to manage their spent acid and receive fresh acid for reuse in their alkylation processes. Since storage of fresh and spent acid is limited, and the cost to refineries of interruption to their alkylation units is prohibitive, refiners require a continuous and reliable sulfuric acid supply chain. By providing regeneration services, as well as purchasing by-product sulfur from customers for use in manufacturing fresh acid, we play an integral part in managing the sulfuric acid supply chains of our refining customers.

There are a number of positive drivers which we believe will increase future demand for alkylate and refined products, including, increased U.S. exports of refined product given the lower cost position created by cheaper natural gas and domestic oil, increased refining of shale oil will require more alkylate blending to achieve desired octane levels, increased use of C3 (propylene) and C5 (amylene) (vs. C4 (butylene)) olefin feedstock for alkylation units because of the availability of natural gas liquid by-products from shale drilling, Tier 3 regulatory standards on vehicle efficiency and gasoline sulfur content drive demand for alkylate and alkylate substitutes ethanol and butane hitting blending limits.

The industry structure is compelling for incumbents, with significant capital costs required for new regeneration plants, supply chains already consolidated among the major players via captive pipeline connections and transport links, and significant local, regional and state permitting hurdles in place for any new contemplated plant construction. We are the largest producer of regenerated sulfuric acid in the United States with approximately 52% of the supply share. Regeneration producers compete on the basis of price, reliability, and responsiveness to changes in customer demand, which is a function of scale, proximity to customer locations and operational expertise.

Virgin Sulfuric Acid (11% of Pro Forma Combined FY 2015 Sales)

Sulfuric acid is created either through the burning of sulfur in furnaces, or as a by-product of other industrial processes, primarily the smelting of copper and other base metals. We produce a range of virgin sulfuric acid products by burning sulfur in our plants for supply to diverse end-uses. Sulfur-burned acid is generally of higher purity and quality than smelter-produced acid. Smelter-produced acid is not suitable for some industrial users including several of our larger customers who require high quality and differentiated sulfuric acid products, such as super-saturated sulfuric acid (oleum) and other high purity specialty acids. Virgin sulfuric acid and regenerated sulfuric acid are manufactured in our regeneration plants utilizing the same production equipment; we also have one facility in Houston that only produces virgin sulfuric acid from sulfur.

Based on industry estimates, global consumption of sulfuric acid ex-fertilizer and petroleum is expected to grow at an annual rate of approximately 3% between 2015 and 2020.

We are the largest producer of virgin sulfuric acid for U.S. merchant sales, with approximately 19% total supply share. Amongst U.S. sulfur-burned virgin sulfuric acid producers, we have the number one merchant seller position, at approximately 40%. Our addressable virgin sulfuric acid supply position comprises refinery make-up volumes and the broader chemical, agricultural and industrial end-uses. Virgin sulfuric acid suppliers compete for merchant sales on the basis of quality, reliability and price, with many larger users of sulfuric acid requiring high quality products, reliability of supply, and responsiveness to ensure continuity of operations. Generally, the industry is segmented by geography, since the costs of transporting acid are high. We believe there will be increased future demand for virgin sulfuric acid in the United States, particularly in the Gulf region as investment in the petrochemical industry in that region is anticipated to result in an increased need for virgin sulfuric acid.

MANAGEMENT

Executive Officers, Directors and Key Employees

After the consummation of the Business Combination, the executive officers, directors and key employees of PQ Holding, the direct parent company of PQ, which is the board that will take strategic action with respect to our business, are expected to be as follows:

Name	Age*	Position
George Biltz	57	Chief Executive Officer, President and Director
Michael Crews	49	Chief Financial Officer and Vice President
Scott Randolph	53	Vice President and President—Global Performance Chemicals & Potters
Paul Ferrall	59	Vice President and President—Eco Services
Ray Kolberg	54	Vice President and President—Catalysts
John Lau	61	Chief Technology Officer
Joseph Koscinski	50	Secretary, Vice President & General Counsel
Margaret Sofio	53	Vice President—Human Resources
Michael Boyce	68	Chairman of the Board of Directors
Greg Brenneman	54	Director
Timothy Walsh	53	Director
Chris Behrens	55	Director
Robert Coxon	68	Director
Andrew Currie	60	Director
Jonny Ginns	42	Director
Kyle Vann	68	Director

* As of April 20, 2016.

George Biltz became our President and Chief Executive Officer in May 2015. From 2013 to 2015, Mr. Biltz was EVP Operations, Engineering & Technology and Chief Strategy Officer at Axiall Corporation. From 2011 to 2013, Mr. Biltz was Corporate Vice President, Energy and Climate Change at Dow Chemical. From 1980 to 2011, Mr. Biltz held various management positions, including various business president positions, subsidiary Chief Executive Officer roles and other executive corporate responsibilities at Dow Chemical.

Michael Crews became our Chief Financial Officer and Vice President in August 2015. From 2008 to 2015, Mr. Crews was Executive Vice President and Chief Financial Officer at Peabody Energy. From 1998 to 2008, Mr. Crews held various management positions at Peabody Energy including Vice President—Operations Planning, Assistant Treasurer and Director—Financial and Capital Planning. Mr. Crews began his career in KPMG's audit function.

Scott Randolph became Vice President and President of Global Performance Chemicals Americas in March of 2016 and he continues to serve as President of Potters, a position he has held since April of 2005. From August 2015 to March 2016, Mr. Randolph served as Vice President and President of Performance Chemicals Americas and Australia and Potters. Mr. Randolph originally joined us as Senior Vice President Strategic Planning in February 2005. From 2000 to 2005, Mr. Randolph held the position of Chief Financial Officer with Peak Investments, LLC. From 1990 to 2000, Mr. Randolph held a number of management positions with Harris Chemical Group and IMC Global Inc. following IMC Global's acquisition of Harris. Mr. Randolph's last position with IMC Global was General Manager of the Worldwide Boron Business. From 1989 to 1990, Mr. Randolph held management positions with General Chemical. Prior to that, Mr. Randolph served as a nuclear trained naval officer from 1984 to 1989.

Paul Ferrall became President of Eco Services in February of 2016, and will serve as Vice President and President of our Eco Services business after the consummation of the Business Combination. Paul served as Vice

President and President of Performance Chemicals Americas & Australia from November 2006 to August 2015. Mr. Ferrall joined us in August 2005 as Senior Vice President of Global Plant Operations for the Performance Chemicals business. Before joining us, Mr. Ferrall had been President of Peak Chemical and Sulfur. From 1995 to 2000, Mr. Ferrall held several management positions with Harris Chemical and IMC Global, including Vice President of its Soda Products business. From 1978 to 1995, Mr. Ferrall held various positions of responsibility in engineering, operations, finance, sales and business management with Allied Chemical.

John Lau became Chief Technology Officer and Vice President in January 2016. Prior to that, Dr. Lau served as Vice President and General Manager of Silica Catalysts and Zeolyst International beginning in November 2006 and President of the Catalysts business beginning in January 2011. Dr. Lau joined us in July 1996 to lead our Exploratory Research department with the mission to develop new growth opportunities. Dr. Lau was appointed Vice President of Research and Development in 1998 and Vice President of Strategic Planning in 2005. Prior to joining us, Dr. Lau held various research and management positions at W.R. Grace & Co. from 1984 to 1996. From 1982 to 1984, Dr. Lau was a research fellow at the University of California, Los Angeles.

Joseph Koscinski became Vice President, Secretary and General Counsel in November 2015. From August 1995 to November 2015, Mr. Koscinski was an attorney in the Business Services Group of Babst, Calland, Clements and Zomnir, P.C., a law firm in Pittsburgh, Pennsylvania, where he was named a shareholder in 2003 and where his corporate practice included mergers and acquisitions, real estate matters, and commercial contracts. While in private practice, Mr. Koscinski served as outside corporate counsel to PQ Corporation since 2005.

Margaret Sofio became Vice President of Human Resources in October 2015. From 2009 to 2015, Ms. Sofio served as Vice President of Human Resources at C&D Technologies, Inc. From 2002 to 2009, she was Director of Human Resources at Sunoco Logistics Partners LP. Prior to that, she served as VP of Human Resources, Correctional Services Division at ARAMARK Corp.

Ray Kolberg became Vice President and President of the Catalysts business in January 2016. From May 2012 to December 2015, Dr. Kolberg served as Senior Vice President of Momentive Performance Materials Inc.'s Formulated Products Business Sector. Prior to that, he served as Senior Vice President of Momentive's Quartz and Ceramics business. Dr. Kolberg started his career when he joined GE, where he held positions of increasing responsibility in marketing, sales, manufacturing, and supply chain.

Michael Boyce became the Chairman of our Board in 2005. From 2005 to April 2015, Mr. Boyce also served as our Chief Executive Officer. From 1998 to 2004, Mr. Boyce was the Chairman and Chief Executive Officer of Peak Investments, LLC. Prior to April 1998, he was President & Chief Operating Officer of Harris Chemical Group and Chief Executive Officer of Penrice Soda Products Pty. Ltd. in Australia. Before joining Harris Chemical Group, he was with General Chemical, where he spent two years as Vice President and General Manager of its Industrial Chemicals division. Prior to that, he was President of Catalyst Resources, Inc., a subsidiary of Phillips Petroleum Company that manufactures polypropylene and polyethylene polymerization catalysts. From 1983 through 1986, he was Vice President and General Manager of Sylvachem Corporation, a wholly owned subsidiary of SCM Corporation, a company active in specialty chemicals. Earlier in his career, he was with Union Carbide for 12 years, where he held a variety of positions in business management, sales & marketing and manufacturing. Mr. Boyce also serves as a director on the boards of two public companies, AAR Corp. and Stepan Company.

Greg Brenneman became a director in 2014. Mr. Brenneman is Chairman, President and Chief Executive Officer of CCMP and a member of the firm's Investment Committee. Prior to joining CCMP in October 2008, Mr. Brenneman served as Chief Executive Officer of QCE Holdings LLC ("Quiznos"), a U.S. quick service restaurant chain, from January 2007 until September 2008 and as President of Quiznos from January 2007 until November 2007. He also served as Executive Chairman of Quiznos from 2008 to 2009. Prior to joining Quiznos, from 2004 to 2006, Mr. Brenneman was Chairman and Chief Executive Officer of Burger King Corporation. Prior to joining Burger King, Mr. Brenneman was named President and Chief Executive Officer of PwC Consulting in June 2002. Mr. Brenneman joined Continental Airlines in 1995 as President and Chief Operating Officer and a member of its board of directors. In 1994, Mr. Brenneman founded Turnworks, Inc., his personal investment firm that focuses on corporate turnarounds. Prior to founding Turnworks, Inc., Mr. Brenneman was a Vice President for Bain and Company. Mr. Brenneman currently serves on the board of directors of Eco Services, Milacron Holdings Corp, Volotea SL, The Home Depot, Inc. and Baker Hughes Inc.

Timothy Walsh became a director in 2014. Mr. Walsh is Chief Operating Officer and a Managing Director of CCMP and a member of the firm's Investment Committee. Prior to joining CCMP upon its formation in August 2006, Mr. Walsh was a Partner at J.P. Morgan Partners, LLC between 2002 and 2006. Before joining J.P. Morgan Partners in 1993, Mr. Walsh worked on various industry-focused client teams within The Chase Manhattan Corporation. Mr. Walsh currently serves on the board of directors of Eco Services, Generac Holdings, Inc., Milacron Holdings Corp. and Volotea SL.

Christopher Behrens became a director in 2014. Mr. Behrens is a Managing Director of CCMP and a member of the firm's Investment Committee. Mr. Behrens focuses on making investments in the energy, industrial and distribution sectors. Prior to joining CCMP in 1994, he was a Vice President in the Merchant Banking group of The Chase Manhattan Corporation. Mr. Behrens also serves on the board of directors of Eco Services, Newark E&P Holdings, LLC, Chaparral Energy and Noble Environmental Power, LLC.

Robert Coxon became a director in 2007. Mr. Coxon was previously an Operating Executive to Carlyle assisting Buyout teams in Europe, the United States, the Middle East and Asia. In that role, he advised Carlyle in making and managing investments in the chemicals sector and was based in London. In addition to serving on our board of directors, Mr. Coxon is also Chairman of the UK Center for Process Innovation, an international research center in printable electronics, bio-processing and low carbon energy. Previously he was on the board of directors of AZ Electronic Materials, Sinorgchem, Ensus and Stahl. Prior to joining Carlyle, Mr. Coxon was Senior Vice President of ICI and Chief Executive Officer of Synetix, a world leading catalyst company.

Andrew Currie became a director in 2008. Mr. Currie has been a director of INEOS since 1999, a partner of INEOS since 2000, and a director of INEOS AG since March 2010 when the ownership of the INEOS business was transferred to Switzerland. He was previously Managing Director, Laporte Performance Chemicals, having served as a director of the Inspec Group from 1994 until the Laporte acquisition of Inspec in 1998. Mr. Currie spent the first 15 years of his career with BP Chemicals in various technical and business management functions.

Jonny Ginns became a director in 2010. Mr. Ginns joined INEOS in 2006 as Group General Counsel, having worked as an external lawyer for a number of years before that. He has experience across a wide range of fields, including mergers & acquisitions, disposals, joint ventures, litigation, finance and employee benefits, and acts as a director for a number of INEOS entities.

Kyle Vann became a director in 2014. Mr. Vann has served as an Executive Advisor to CCMP since October 2012. Mr. Vann possesses extensive experience in exploration and production, midstream, energy services and trading. He served for 25 years in various senior leadership positions at Koch Industries including as CEO of Entergy-Koch LP, a joint venture between Koch Industries and Entergy Corporation. Before joining Koch Industries, Mr. Vann worked at Humble Oil and Refining Company (which later became part of Exxon) as a refinery engineer. He currently serves on the board of directors of Eco Services, Texon LP, EnLink Midstream LP and Legacy Reserves and provides energy consulting services to Entergy Corporation.

PRINCIPAL STOCKHOLDERS

PQ is an indirect, wholly-owned subsidiary of PQ Holdings, a company whose common stock is owned by affiliates of CCMP, INEOS and current and former members of PQ management. After giving pro forma effect to the Business Combination, we expect that affiliates of CCMP, INEOS and current and former members of management and our board of directors will own approximately 59%, 31% and 10%, respectively, of New Holdings, the direct parent of PQ Holdings.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Consulting Agreements with CCMP and INEOS

On December 29, 2014, we and PQ Holdings entered into a consulting agreement with CCMP (the "CCMP Consulting Agreement"), pursuant to which CCMP will provide certain financial advisory, consulting and other transaction services to us. We also entered into a substantially similar consulting agreement with INEOS, AG (the "INEOS Consulting Agreement") that contains substantially similar terms as those contained in the CCMP Consulting Agreement. Pursuant to the CCMP Consulting Agreement and the INEOS Consulting Agreement, CCMP and INEOS will receive an aggregate quarterly advisory fee of $1.25 million (to be divided between them pro rata based on their and their affiliates' proportionate ownership in PQ Holdings). CCMP and INEOS will also receive (i) customary transaction fees for any consultation services provided by CCMP or INEOS, respectively, with respect to any acquisitions, mergers, recapitalizations, or similar transactions, if approved by our board and (ii) reimbursement for reasonable out-of-pocket expenses incurred in connection with the provision of services. Each of the CCMP Consulting Agreement and the INEOS Consulting Agreement also provide for customary limitation on liability, exculpation and indemnification provisions.

New Holdings Stockholders' Agreement

In connection with the Business Combination, New Holdings will enter into a stockholders' agreement (the "New Holdings Stockholders' Agreement") with affiliates of CCMP, affiliates of INEOS and the management stockholders. The New Holdings Stockholders' Agreement will contain provisions relating to the election of members to the board of directors, governance, stock transfer restrictions, customary drag-along rights and customary tag-along rights, preemptive rights and registration rights. These provisions, other than the registration rights provisions, the provisions relating to the election of members to the board of directors and the tag-along rights will terminate upon our initial public offering.

New Senior Unsecured Notes Investment

In connection with the private placement of the New Senior Unsecured Notes, certain individuals affiliated with INEOS are expected to purchase New Senior Unsecured Notes in an aggregate principal amount of up to $14.0 million, upon the terms offered to all purchasers of the New Senior Unsecured Notes.

DESCRIPTION OF OTHER INDEBTEDNESS

The following descriptions are only summaries of the expected material provisions of the New Senior Secured Credit Facilities, the New Senior Unsecured Notes and the material provisions of the 2022 Notes and certain other of our indebtedness, and do not purport to be complete. The terms and provisions of the proposed New Senior Secured Credit Facilities and New Senior Unsecured Notes are subject to change prior to the completion of definitive documentation.

New Senior Secured Credit Facilities

In connection with the Business Combination, we, Holdings and certain of our subsidiaries will enter into a $1,200.0 million New Term Loan Facility consisting of a U.S. Dollar denominated tranche in the amount of $900.0 million and a Euro denominated tranche in the amount of $300.0 million with Credit Suisse AG, as administrative agent (the "Term Loan Agent"), and certain financial institutions as term loan lenders, and a $200.0 million New ABL Facility, with Citigroup, as administrative agent (the "Revolving Agent"), and certain financial institutions as revolving lenders. Citigroup, Credit Suisse Securities (USA) LLC, JPMorgan Chase Bank, N.A., Morgan Stanley Senior Funding, Inc., Deutsche Bank Securities Inc., Goldman Sachs Lending Partners LLC, Jefferies Finance LLC and KeyBanc Capital Markets Inc. will act as joint lead arrangers and joint bookrunners for the New Term Loan Facility and the New ABL Facility.

General

New ABL Facility. The New ABL Facility is expected to consist of a U.S. revolving credit facility available in U.S. dollars or such other currencies acceptable to the revolving lenders (the "U.S. ABL Facility"), a Canadian revolving credit facility available in Dollars or CAD and such other currencies acceptable to the revolving lenders (the "Canadian ABL Facility") and a UK and Netherlands revolving credit facility available in U.S. dollars, euros and/or pounds sterling and such other currencies acceptable to the revolving lenders (the "European ABL Facility"), in each case, providing for loans and/or letters of credit thereunder; provided that the aggregate outstanding amount of loans under the U.S. ABL Facility, Canadian ABL Facility and European ABL Facility shall each be subject to sublimits, shall not exceed $200.0 million in the aggregate (the "Aggregate Revolving Commitments") and are subject to the borrowing base restrictions set forth below. Proceeds from the New ABL Facility may be used (a) on the closing date in an amount not to exceed $75 million (i) to finance a portion of the Business Combination and related transactions and (ii) to finance certain fees and expenses and (b) after the closing date, to finance our working capital needs and other general corporate purposes, including investments, restricted payments and any other purpose not prohibited thereby. A portion of the New ABL Facility of at least $50.0 million will be available for the issuance of letters of credit.

Availability under the U.S. ABL Facility will be limited to the lesser of the applicable sublimit and a borrowing base (the "U.S. Borrowing Base") equal to the sum (subject to certain reserves and other adjustments) of:

- 85% of certain loan parties' organized in the United States (the "U.S. Loan Parties") eligible accounts receivable, plus
- the lesser of (x) 70% of the book value (calculated as the lower of cost or market value) of the U.S. Loan Parties' eligible inventory and (y) 85% of the appraised net orderly liquidation value of the U.S. Loan Parties' eligible inventory, plus
- 100% of the cash of the U.S. Loan Parties' on deposit in accounts and subject to a first priority perfected lien in favor of the Revolving Agent and restrictions on the U.S. Loan Parties' ability to access the cash, in an aggregate amount not to exceed an agreed limit.

Availability under the Canadian ABL Facility will be limited to the lesser of the applicable sublimit and a borrowing base (the "Canadian Borrowing Base") equal to the sum (subject to certain reserves and other adjustments) of:

- 85% of certain loan parties' organized under the laws of Canada (the "Canada Loan Parties") eligible accounts receivable, plus

- the lesser of (x) 70% of the book value (calculated as the lower of cost or market value) of the Canadian Loan Parties' eligible inventory and (y) 85% of the appraised net orderly liquidation value of the Canadian Loan Parties' eligible inventory, plus
- 100% of the cash of the Canadian Loan Parties' on deposit in accounts and subject to a first priority perfected lien in favor of the Revolving Agent and restrictions on the Canadian Loan Parties' ability to access the cash, in an aggregate amount not to exceed an agreed limit.

Availability under the European ABL Facility will be limited to the lesser of the applicable sublimit and a borrowing base (the "European Borrowing Base", together with the U.S. Borrowing Base and Canadian Borrowing Base, the "Borrowing Base") equal to the sum (subject to certain reserves and other adjustments) of:

- 85% of certain loan parties' organized under the laws of the Netherlands or the United Kingdom (the "European Loan Parties") eligible accounts receivable, plus
- the lesser of (x) 70% of the book value (calculated as the lower of cost or market value) of the European Loan Parties' eligible inventory and (y) 85% of the appraised net orderly liquidation value of the European Loan Parties' eligible inventory, plus
- 100% of the cash of the European Loan Parties' on deposit in accounts and subject to a first priority perfected lien in favor of the Revolving Agent and restrictions on the European Loan Parties' ability to access the cash, in an aggregate amount not to exceed an agreed limit.

The New ABL Facility will provide the Revolving Agent customary discretion to impose reserves or availability blocks, which could materially impair the amount of borrowings that would otherwise be available to us, the U.S. Loan Parties, the Canadian Loan Parties and the European Loan Parties and may require us, the U.S. Loan Parties, the Canadian Loan Parties and the European Loan Parties to repay certain amounts outstanding under the New ABL Facility.

The New ABL Facility is expected to provide that, after the consummation of the Business Combination, we may request increases to the New ABL Facility and/or add one or more incremental revolving facilities in an aggregate principal amount not to exceed (w) the greater of (1) $50.0 million and (2) an amount equal to the difference between the sum of each Borrowing Base and the Aggregate Revolving Commitments, so long as, on a pro forma basis, the total net leverage ratio does not exceed the total net leverage on the Closing Date plus (x) in the case of any incremental facilities that serve to effectively replace any commitment under the New ABL Facility that is terminated under the "yank-a-bank" provisions, an amount equal to the portion of the relevant terminated commitment plus (y) the amount of any permanent voluntary reduction of the commitments under the New ABL Facility and/or any incremental revolving facility. The existing lenders under the New ABL Facility will not be under any obligation to provide such additional commitments, and any increase in commitments is subject to customary conditions precedent.

Additional borrowings under the New ABL Facility will be subject to the satisfaction of customary conditions, including absence of events of default, accuracy of representations and warranties in all material respects and availability.

New Term Loan Facility. Availability of the New Term Loan Facility on the Closing Date will be subject to specified conditions precedent, including the consummation of the Business Combination. Subject to the satisfaction of these conditions, we expect to draw the full amount of the New Term Loan Facility upon consummation of the Business Combination to finance a portion of the Business Combination, the refinancing and the other related transactions contemplated hereby and the payment of related fees, expenses and other costs.

The New Term Loan Facility is expected to provide that, after the consummation of the Business Combination, we may request increases to (a) the New Term Loan Facility and/or add one or more incremental term loan facilities and/or (b) add one or more incremental cash-flow revolving facilities and/or increase commitments under any then existing incremental cash-flow revolving facilities (each, an "Incremental Cash Flow Revolving Facility") in an aggregate principal amount not to exceed (w) $200.0 million, plus (x) in the case of any incremental facilities that serve to effectively extend the maturity of the New Term Loan Facility and/or Incremental Cash Flow Revolving Facility, an amount equal to the reductions in the New Term Loan Facility and/or Incremental Cash Flow Revolving Facility to be replaced thereby plus (y) the amount of certain voluntary prepayment of the term loans under the New Term Loan Facility and/or any incremental term facility and/or any permanent reduction of the commitments under any Incremental Cash Flow Revolving Facility and plus (z) an unlimited amount so long as (1) if such indebtedness is secured on a *pari passu* basis with the New Term Loan Facility, we are in compliance on a pro forma basis with a senior secured net leverage ratio of no greater than 3.75:1.00, (2) if such indebtedness is secured by a lien that is junior to the lien securing the New Term Loan Facility, we are in compliance on a pro forma basis with a secured net leverage ratio of no greater than 4.70:1.00 and (3) if such indebtedness is unsecured, we are in compliance on a pro forma basis with a total net leverage ratio of no greater than 3.75:1.00 leverage ratio as of the closing date. The existing lenders under the New Term Loan Facility will not be under any obligation to provide such additional commitments.

Interest Rate and Fees

New ABL Facility: The interest rates applicable to loans under the New ABL Facility denominated in (a) U.S. dollars are equal to an applicable interest rate margin, plus, at our option, either (1) a base rate (the "Base Rate") determined by the reference to the highest of (A) the prime commercial lending rate publicly announced by the Revolving Agent as the "prime rate" as in effect on such day, (B) the federal funds effective rate plus 0.50%, and (C) the LIBOR rate determined by reference to the cost of funds for Eurodollar deposits for an interest period of one month, plus 1.00% or (2) a LIBOR rate determined by reference to the costs of funds for Eurodollar deposits for the specified interest period, as adjusted for certain statutory reserve requirements (the "Eurodollar Rate"), (b) Canadian dollars are equal to an applicable interest rate margin, plus, at our option, either (1) the average rate applicable to Canadian dollar bankers' acceptances (the "B/A Equivalent Rate") or (2) the highest of (i) the prime commercial lending rate publicly announced by the Revolving Agent in Canada as its "prime rate" as in effect on such day or (ii) one-month B/A Equivalent Rate plus 1.0% per annum, or (c) Euros or Pounds Sterling are equal to an applicable interest rate margin, plus the Eurodollar Rate.

A commitment fee will be charged on the average daily unused portion of the New ABL Facility of (a) 0.375% per annum if the average daily unused portion of the Aggregate Revolving Commitments of non-defaulting revolving lenders is less than 50% or (b) 0.25% per annum if the average daily unused portion of the Aggregate Revolving Commitments of non-defaulting revolving lenders is equal to or greater than 50%.

New Term Loan Facility. Borrowings under (x) the U.S. dollar-denominated tranche of our New Term Loan Facility will bear interest at a rate per annum equal to an applicable interest rate margin, plus, at our option the greater of (1) the Base Rate and (2) a Base Rate floor and (y) the Euro denominated tranche of our New Term Loan Facility are expected to bear interest at a rate per annum equal to an applicable interest rate margin, plus, at our option the greater of (1) the Eurodollar Rate and (2) a LIBOR rate floor.

Mandatory Prepayments

New ABL Facility. If at any time the aggregate amount of outstanding loans, unreimbursed letter of credit drawings and outstanding letters of credit under our U.S. ABL Facility exceeds the lesser of (i) the applicable sublimit and (ii) the then applicable U.S. Borrowing Base, the New ABL Facility will require us to repay the outstanding loans under such facility (and cash collateralize outstanding letters of credit) in an aggregate amount equal to such excess. If at any time the aggregate amount of outstanding loans, unreimbursed letter of credit drawings and outstanding letters of credit under our Canadian ABL Facility exceeds the lesser of (i) the applicable sublimit and (ii) the then applicable Canadian Borrowing Base, the New ABL Facility will require us to repay the outstanding loans under such facility (and cash collateralize outstanding letters of credit) in an aggregate amount equal to such excess. If at any time the aggregate amount of outstanding loans, unreimbursed letter of credit drawings and outstanding letters of credit under our European ABL Facility exceeds the lesser of (i) the applicable sublimits and (ii) the then applicable European Borrowing Base, the New ABL Facility will require us to repay the outstanding loans under such facility (and cash collateralize outstanding letters of credit) in an aggregate amount equal to such excess. If at any time the aggregate amount of outstanding loans, unreimbursed letter of credit drawings and outstanding letters of credit under the New ABL Facility exceeds the lesser of (i) the Aggregate Revolving Commitments and (ii) the then-applicable U.S. Borrowing Base plus the then-applicable Canadian Borrowing Base plus the then-applicable European Borrowing Base, the New ABL Facility will require us to repay the outstanding loans under such facility (and cash collateralize outstanding letters of credit) in an aggregate amount equal to such excess.

New Term Loan Facility. The New Term Loan Facility will require us to prepay, subject to certain exceptions, outstanding term loans with:

- 100% of net cash proceeds of any incurrence of debt, other than the net cash proceeds of the Notes offered hereby and certain other debt permitted under the New Term Loan Facility;
- 100% of net cash proceeds above a threshold amount of certain asset sales, subject to reinvestment rights and certain other exceptions; and
- 50% (subject to step-downs to 25% and 0% based upon senior secured net leverage ratio levels of 3.50:1.00 and 3.00:1.00, respectively) of our annual excess cash flow.

Voluntary Repayment

We may voluntarily reduce the unutilized portion of the commitment amount and repay outstanding loans under the New ABL Facility and/or the New Term Loan Facility at any time without premium or penalty other than (a) customary "breakage" costs with respect to LIBOR borrowings and (b) in the case of the New Term Loan Facility, a 1.00% call protection premium applicable to certain "repricing transactions" occurring on or prior to the date that is twelve months after the Closing Date.

Amortization and Final Maturity

All outstanding revolving loans under the New ABL Facility are due and payable in full upon the expiration of its five-year term. In the case of the term loans borrowed under the New Term Loan Facility, we will be required to make scheduled quarterly payments equal to 0.25% of the original principal amount of the term loans made on the closing date of the Business Combination, with the balance due on the 6.5 year anniversary of such closing date.

Guarantees and Security

All obligations under our New ABL Facility and New Term Loan Facility will be each unconditionally guaranteed jointly and severally on a senior basis by: (i) in the case of the New Term Loan Facility, Holdings, certain of our existing and future direct and indirect wholly-owned domestic subsidiaries (collectively, the "U.S. Guarantors"); (ii) in the case of the U.S. ABL Facility, the U.S. Guarantors (other than any such person in its capacity as a primary obligor in respect of the relevant obligation); (iii) in the case of the Canadian ABL Facility, by each of the Canadian ABL Facility borrower's wholly owned Canadian subsidiaries (subject to customary exceptions), PQ Corporation and the U.S. Guarantors; and (iv) in the case of the European ABL Facility, by each of the European ABL Facility borrower's wholly owned subsidiaries organized under the laws of the Netherlands or the United Kingdom (subject to customary exceptions), PQ Corporation and the U.S. Guarantors.

All obligations under the U.S. ABL Facility, the Canadian ABL Facility, the European ABL Facility and the New Term Loan Facility, and the guarantees of those obligations, will be secured, subject to certain exceptions, by substantially all of the assets of the borrowers under each such facility and the assets of the respective guarantors under each such facility.

The assets securing the U.S. ABL Facility, the Canadian ABL Facility and the European ABL Facility (the "ABL Collateral") will include a first priority (subject to permitted liens and other exceptions) security interest in personal property consisting of accounts receivable, inventory, cash and cash equivalents (other than cash and cash equivalents constituting proceeds of Term Loan Collateral (as defined below), cash collateral subject to certain permitted liens or certain identifiable tax and trust funds), deposit accounts and securities accounts (other than any deposit account or securities account established solely to hold identified proceeds of Term Loan Collateral), and general intangibles, instruments, chattel paper, documents, commercial tort claims, letter of credit rights and supporting obligations related to the foregoing (other than capital stock and intellectual property), intellectual property to the extent attached to or necessary to sell the foregoing and books and records to the extent related to the foregoing, and, in each case, proceeds thereof, subject to customary exceptions.

The Term Loan Facility is secured by a second priority lien on and security interest in the ABL Collateral securing the U.S. ABL Facility.

The assets securing the New Term Loan Facility (the "Term Loan Collateral") will include a first priority security interest (subject to permitted liens and other exceptions) on 100% of the present and future shares of capital stock in our subsidiaries and the subsidiary guarantors thereunder (but limited in the case of the voting capital stock of any first-tier foreign subsidiary and any direct or indirect domestic subsidiary of which substantially all of its assets consist of the equity and/or debt of one or more direct or indirect foreign subsidiaries, to 65% of such capital stock), substantially all of our and the subsidiary guarantors' material owned real property and equipment and all other personal property of us and the subsidiary guarantors to the extent not constituting collateral securing the ABL Facility on a first priority basis, including, without limitation, contracts (other than those relating to collateral securing the ABL Facility on a first priority basis), patents, copyrights, trademarks, other general intangibles, intercompany notes and proceeds of the foregoing, subject to customary exceptions.

The New ABL Facility is secured by a second priority lien on and security interest in the Term Loan Collateral.

Certain Covenants and Events of Default

The New ABL Facility and the New Term Loan Facility will contain a number of restrictive covenants that, among other things and subject to certain exceptions, will restrict our ability and the ability of our subsidiaries to:

- incur additional indebtedness;
- pay dividends on our capital stock or redeem, repurchase or retire our capital stock;
- make investments, acquisitions, loans and advances;
- create negative pledge or restrictions on the payment of dividends or payment of other amounts owed to us from our subsidiaries;
- engage in transactions with our affiliates;
- sell, transfer or otherwise dispose of our assets, including capital stock of our subsidiaries;
- materially alter the business we conduct;
- modify certain material documents;
- change our fiscal year;
- consolidate, merge, liquidate or dissolve;
- incur liens; and
- make prepayments of subordinated or junior debt or the Notes offered hereby.

Holdings shall also be subject to a “passive holding company” covenant under the New ABL Facility and the New Term Loan Facility.

In addition, the New ABL Facility will contain a financial covenant requiring us to maintain a 1.0 to 1.0 minimum trailing four quarter fixed charge coverage ratio, to be tested at any time that either (a) excess availability under the New ABL Facility decreases to a level below the greater of 10% of the Line Cap (as defined below) and $20.0 million and (b) availability under the U.S. ABL Facility is less than $15.0 million until the date on which (x) excess availability exceeds the greater of 10 % of the Line Cap and $20.0 million for 30 consecutive days and (y) availability under the U.S. ABL Facility for each day over a 30 consecutive day period has been equal to or greater than $15.0 million. As used herein “Line Cap” means the lesser of (i) the Aggregate Revolving Commitments and (ii) the sum of the then-applicable U.S. Borrowing Base, the then-applicable Canadian Borrowing Base and the then-applicable European Borrowing Base.

The New ABL Facility and the New Term Loan Facility will also contain certain customary representations and warranties, affirmative covenants and reporting obligations. In addition, the lenders under the New ABL Facility and the New Term Loan Facility will be permitted to accelerate the loans and terminate commitments thereunder or exercise other specified remedies available to secured creditors upon the occurrence of certain events of default, subject to certain grace periods and exceptions, which will include, among others, payment defaults, breaches of representations and warranties, covenant defaults, cross-defaults to certain material indebtedness, certain events of bankruptcy, certain events under the Employee Retirement Income Security Act of 1974, as amended, material judgments and changes of control.

New Senior Unsecured Notes

In connection with the Business Combination, we expect to issue $625 million aggregate principal amount of New Senior Unsecured Notes in a concurrent private placement exempt from the registration requirements of the Securities Act. The New Senior Unsecured Notes will mature on May 1, 2022; provided that if the 2022 Notes have been refinanced or otherwise repaid prior to such date, the New Senior Unsecured Notes will instead mature on May 2, 2023. Interest on the New Senior Unsecured Notes will be paid and reset quarterly and the New Senior Unsecured Notes will bear interest at an annual rate equal to three-month LIBOR plus 10.75% per year, with a 1.0% LIBOR floor. The New Senior Unsecured Notes will be senior unsecured obligations of the Company and the Guarantors.

The New Senior Unsecured Notes will be redeemable, in whole or in part, at any time on or after May 2, 2018 on specified redemption dates and at the redemption prices set forth below, if redeemed during the twelve-month period beginning on May 2 or each of the years indicated below:

Year	Percentage
2018	106.000%
2019	103.000%
2020	101.000%
2021 and thereafter	100.000%

In addition, we may redeem up to 50% of the New Senior Unsecured Notes before May 2, 2018 with the net cash proceeds from certain equity offerings at a redemption price equal to 106% of the aggregate principal amount thereof.

We may also redeem some or all of the New Senior Unsecured Notes before May 2, 2018 at a redemption price of 100% of the principal amount thereof plus accrued and unpaid interest, if any, to the redemption date, plus a “make whole” premium.

We may be required to make an offer to purchase the New Senior Unsecured Notes at par upon the sale of certain assets, subject to customary reinvestment rights, and upon a Change of Control at the redemption prices set forth below, if a Change of Control occurs during the twelve-month period beginning on May 2 of each of the years indicated below:

Year	Percentage
2018	106.000%
2019	103.000%
2020	101.000%
2021 and thereafter	100.000%

The agreement governing the New Senior Unsecured Notes is expected to contain customary negative covenants, subject to customary exceptions, that will limit our ability and the ability of our restricted subsidiaries to, among other things, incur, assume or permit to exist additional indebtedness (including guarantees thereof), incur liens on assets, pay dividends or certain other distributions on our capital stock or repurchase our capital stock or prepay subordinated indebtedness, make certain investments or other restricted payments, allow certain restrictions on the ability of our restricted subsidiaries to pay dividends, make other payments to us or sell or transfer assets engage in transactions with affiliates and sell certain assets or merge or consolidate with or into other companies.

Terms subject to change

The terms described above with respect to the New ABL Facility, the New Term Loan Facility and the New Senior Unsecured Notes are subject to change, and such changes may be material, and to a number of conditions, including the consummation of the Business Combination. To the extent that any of these conditions are not satisfied, the New ABL Facility, the New Term Loan Facility and the New Senior Unsecured Notes may not be available on the terms described herein.

2022 Notes

In October 2014, Eco, together with Eco Finance Corp. issued $200.0 million aggregate principal amount of its 8.5% Senior Notes due 2022. The 2022 Notes have a maturity date of November 1, 2022. The 2022 Notes pay interest semi-annually in cash in arrears on May 1 and November 1 of each year. Following the Business Combination, PQ Corporation will assume Eco's obligations under the 2022 Notes and each entity that guarantees PQ Corporation's obligations under the New Senior Secured Credit Facilities will guarantee the 2022 Notes.

The 2022 Notes are redeemable, in whole or in part, at any time on or after November 1, 2017 on specified redemption dates and at the redemption prices. In addition, we may redeem up to 40% of the 2022 Notes before November 1, 2017 with the net cash proceeds from certain equity offerings.

We may also redeem some or all of the 2022 Notes before November 1, 2017 at a redemption price of 100% of the principal amount thereof plus accrued and unpaid interest, if any, to the redemption date, plus a "make whole" premium. We may be required to make an offer to purchase the 2022 Notes upon the sale of certain assets and upon a change of control. The Business Combination does not constitute a Change of Control (as defined in the indenture governing the 2022 Notes) and therefore we have no obligation to offer to purchase the 2022 Notes in connection with the Business Combination. As of December 31, 2015, the aggregate principal amount of the outstanding 2022 Notes was $200.0 million.

The indenture governing the 2022 notes contains certain negative covenants that, subject to exceptions, will limit our ability and the ability of our restricted subsidiaries to, among other things, incur, assume or permit to exist additional indebtedness (including guarantees thereof), incur liens on assets, pay dividends or certain other distributions on our capital stock or repurchase our capital stock or prepay subordinated indebtedness, make certain investments or other restricted payments, allow certain restrictions on the ability of our restricted subsidiaries to pay dividends, make other payments to us or sell or transfer assets engage in transactions with affiliates and sell certain assets or merge or consolidate with or into other companies.

New Markets Tax Credits Financing

On October 24, 2013, the Company's indirect subsidiary Potters entered into a NMTC financing arrangement with Chase and TX CDE, whereby Chase agreed to contribute $6.6 million and an additional $15.6 million in funds lent to Chase by Potters Holdings II, L.P. to TX CDE. TX CDE, in turn, lent $21.0 million in the form of $5.4 million and $15.6 million notes (the "Loans"), to Potters, which used the proceeds of the Loans to finance the expansion of Potters' manufacturing facility in Paris, Texas. The $21.0 million was outstanding as of December 31, 2015 and 2014. The capital expenditures associated with the NMTC were completed in 2014. These Loans are secured by a third lien position behind the New Senior Secured Credit Facilities and the Notes.

DESCRIPTION OF NOTES

General

Certain terms used in this description are defined under the subheading "Certain Definitions." In this description, (i) the terms "we," "our" and "us" each refer to PQ Corporation (and any successor entity, the "Company") and its consolidated Subsidiaries and (ii) the terms "Issuer" and "Company" refer only to the Company and not any of its Affiliates.

The Issuer will issue $500,000,000 aggregate principal amount of % senior secured notes due 2022 (the "*Notes*") under an indenture to be dated , 2016 (the "*Indenture*") among the Issuer, the Guarantors and Wells Fargo Bank, National Association, as trustee (the "*Trustee*") and as collateral agent (the "*Collateral Agent*"). The Notes will be issued in a private transaction that is not subject to the registration requirements of the Securities Act. See "Notice to Investors." The Indenture will not be subject to the provisions of the Trust Indenture Act. Accordingly, the terms of the Notes include only those stated in the Indenture.

The following description is only a summary of the material provisions of the Indenture, the Notes, the Intercreditor Agreements and the Security Documents, does not purport to be complete and is qualified in its entirety by reference to the provisions thereof, including the definitions therein of certain terms used below. We urge you to read the Indenture, the Notes, the Intercreditor Agreements and the Security Documents because those agreements, and not this description, will define your rights as a Holder of the Notes. You may request copies of the Indenture, the Notes, the Intercreditor Agreements and the Security Documents at our address set forth under the heading "Where You Can Find More Information."

Brief Description of Notes

The Notes will be:

- general senior obligations of the Issuer;
- *pari passu* in right of payment to all existing and future unsubordinated indebtedness (including indebtedness under the Term Loan Credit Agreement, the ABL Credit Agreement, the Unsecured Notes and the Existing Senior Notes) of the Issuer;
- *pari passu* with all existing and future unsubordinated Indebtedness secured by a first priority Lien on the Notes Priority Collateral securing indebtedness under the Term Loan Credit Agreement on a first priority basis;
- effectively senior to all existing and future unsubordinated Indebtedness of the Issuer that is not secured by a first priority Lien on the Collateral, to the extent of the value of the Collateral (after giving effect to any senior Lien on the Collateral);
- effectively subordinated to the existing and future obligations under the ABL Facility to the extent of the value of the ABL Collateral;
- senior in right of payment to all Subordinated Indebtedness of the Issuer; and
- structurally subordinated to all existing and future Indebtedness and other claims and liabilities, including preferred stock, of the Company's Subsidiaries that do not guarantee the Notes.

Guarantees

Holdings and the Restricted Subsidiaries that guarantee the Term Loan Credit Agreement will initially guarantee the Notes. See "Description of Other Indebtedness—New Senior Secured Credit Facilities."

Each of the Guarantees of the Notes will be a general senior secured obligation of each Guarantor and will be *pari passu* in right of payment with all existing and future unsubordinated Indebtedness of such Guarantor (including such Guarantor's guarantee of the Term Loan Credit Agreement, the ABL Credit Agreement, the Unsecured Notes and the Existing Senior Notes), will be effectively senior to all existing and future unsubordinated Indebtedness of such Guarantor that is not secured by a first priority Lien on the Notes Priority Collateral, to the extent of the value of the Notes Priority Collateral, will be *pari passu* with all existing and future unsubordinated Indebtedness of such Guarantor secured by a first priority Lien on the Notes Priority Collateral (including indebtedness under the Term Loan Credit Agreement), will be effectively subordinated to the existing and future obligations of such Guarantor under the ABL Facility to the extent of the value of the ABL Collateral, and will be senior in right of payment to all Subordinated Indebtedness of such Guarantor. The Guarantee of any Guarantor will be structurally subordinated to Indebtedness of Subsidiaries of such Guarantor that do not Guarantee the Notes.

Not all of the Company's Subsidiaries will Guarantee the Notes. In the event of a bankruptcy, liquidation or reorganization of any of these non-guarantor Subsidiaries, the non-guarantor Subsidiaries will pay the holders of their debt and their trade creditors before they will be able to distribute any of their assets to the Company. See "Risk Factors—Risks Related to the Notes—Your claims to our assets will be structurally subordinated to all of the creditors of any non-guarantor subsidiaries."

The obligations of each Guarantor (other than Holdings or any other company that is a direct or indirect parent of the Company) under its Guarantee will be limited to the extent enforceable as necessary to prevent such Guarantee from constituting a fraudulent conveyance or transfer under applicable law or case law (including legal restrictions to make distributions or to provide other benefits to direct or indirect shareholders) or as necessary to recognize certain defenses generally available to guarantors, including voidable preference, financial assistance, corporate purpose, capital maintenance or similar laws, regulations or defenses affecting the rights of creditors generally or other considerations under applicable law.

Any Guarantor that makes a payment under its Guarantee will be entitled upon payment in full of all guaranteed obligations under the Indenture to a contribution from each other Guarantor in an amount equal to such other Guarantor's pro rata portion of such payment based on the respective maximum liability of all the Guarantors at the time of such payment.

The Indenture will provide that each Subsidiary Guarantor may consolidate with, amalgamate or merge with or into or sell its assets to the Company or another Subsidiary Guarantor without limitation, or with other Persons upon the terms and conditions set forth in the Indenture. See "Certain Covenants—Merger, Consolidation or Sale of All or Substantially All Assets."

If a Guarantee was rendered voidable, it could be subordinated by a court to all other indebtedness (including guarantees and other contingent liabilities) of the Guarantor, and, depending on the amount of such indebtedness, a Guarantor's liability on its Guarantee could be reduced to zero. See "Risk Factors—Risks Related to the Notes—Federal and state fraudulent transfer laws may permit a court to void the Notes or any guarantees, and, if that occurs, you may not receive any payments on the Notes."

A Guarantee by a Subsidiary Guarantor shall provide by its terms that it shall be automatically and unconditionally released and discharged upon:

(1) any sale, exchange, disposition or transfer (including through consolidation, merger or otherwise) of (a) the Capital Stock of such Subsidiary Guarantor, after which such Subsidiary Guarantor is no longer a Restricted Subsidiary, or (b) all or substantially all the assets of such Subsidiary Guarantor (including to the Issuer or another Subsidiary Guarantor), which sale, exchange, disposition or transfer in each case is not prohibited by the applicable provisions of the Indenture;

(2) other than as a result of the repayment in full of the Term Loan Credit Agreement (a) the release, discharge or termination of the guarantee by such Subsidiary Guarantor of the Term Loan Credit Agreement, or

(b) the release or discharge of such other guarantee that resulted in the creation of such guarantee, in each case except a release, discharge or termination by or as a result of payment under such guarantee;

(3) the permitted designation of any Restricted Subsidiary that is a Subsidiary Guarantor as an Unrestricted Subsidiary pursuant to the provisions of the Indenture;

(4) the consolidation or merger of any Subsidiary Guarantor with and into the Company or another Subsidiary Guarantor that is the surviving Person in such consolidation or merger, or upon the liquidation of such Subsidiary Guarantor following the transfer of all of its assets to the Company or another Subsidiary Guarantor; or

(5) the Issuer exercising its legal defeasance option or covenant defeasance option as described under "Legal Defeasance and Covenant Defeasance" or the Issuer's obligations under the Indenture being discharged in accordance with the terms of the Indenture.

Notwithstanding the foregoing, any guarantee by Holdings or any direct or indirect parent company may be automatically and unconditionally released and discharged for any reason.

The Guarantee by Holdings and its subsidiary, CPQ Midco I Corporation ("CPQ") are being provided solely for the purpose of allowing the Company to satisfy its reporting obligations under the Indenture governing the Notes by furnishing financial information relating to Holdings instead of the Company. Neither Holdings nor CPQ will be subject to the restrictive covenants in the Indenture and you should not assign any value to such Guarantees.

Ranking

The payment of the principal of, premium, if any, and interest, if any, on the Notes and the payment of any Guarantee will rank *pari passu* in right of payment to all existing and future unsubordinated Indebtedness of the Issuer or the relevant Guarantor, as the case may be, including the obligations of the Issuer and such Guarantor under the Senior Credit Facilities, the Unsecured Notes and the Existing Senior Notes.

The Notes and the Guarantees will be effectively senior in right of payment to all of the Issuer's and each Guarantor's existing and future unsubordinated Indebtedness that are not secured by a first priority Lien on the Collateral, to the extent of the value of the Collateral. The Notes and the Guarantees will rank *pari passu* with all existing and future unsubordinated Indebtedness of such Guarantor secured by a first priority Lien on the Collateral (including the Term Loan Credit Agreement and ABL Credit Agreement). As of December 31, 2015, on a *pro forma* basis after giving effect to the Transactions, the Company would have had $2,549 million of senior indebtedness outstanding (including the Notes and Unsecured Notes), $1,722 million of senior Secured Indebtedness, comprised of $1,200 million outstanding under the Term Loan Credit Agreement and $500 million of Notes, $21 million related to IRB Transactions and $1.2 million of capital leases. In addition, as of the same date, we would have had (1) approximately $200 million of availability under the $200 million ABL Credit Agreement, subject to certain limitations (excluding $5.3 million of outstanding letters of credit as of December 31, 2015) and (2) the option to raise up to $200 million of additional incremental term loans under the Term Loan Credit Agreement plus an unlimited amount subject to compliance with certain ratios and up to $50 million of incremental revolving loans under the ABL Credit Agreement plus an unlimited amount subject to compliance with certain ratios which, if borrowed, would be Secured Indebtedness.

Although the Indenture will contain limitations on the amount of additional Indebtedness that the Issuer and the Guarantors may incur, under certain circumstances the amount of such Indebtedness could be substantial and, in any case, such Indebtedness may be senior indebtedness. See "Certain Covenants—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock."

Security

The Notes and the Guarantees are secured by (i) first-priority security interests (subject to Permitted Liens) in the Notes Priority Collateral and (ii) second-priority security interests in the ABL Priority Collateral. The Notes Priority Collateral consists of substantially all of the property and assets, in each case, that are held by the Issuer or any of the Guarantors, other than the ABL Priority Collateral and subject to the limitations described in the next paragraph.

The Collateral does not include:

(1) all leasehold real property,

(2) all fee-owned real property with a fair market value (as reasonably estimated by the Company after taking into account any liabilities with respect thereto that impact such fair market value) of less than $15 million,

(3) interests in partnerships, joint ventures and non-wholly-owned subsidiaries which cannot be pledged without (i) the consent of one or more third parties other than Holdings, the Company or any of its Restricted Subsidiaries (after giving effect to the applicable anti-assignment provisions of the Uniform Commercial Code or any other applicable laws) or (ii) giving rise to a "right of first refusal," a "right of first offer" or similar right that may be exercised by any third party other than Holdings, the Company or any of its Restricted Subsidiares,

(4) the capital stock of Immaterial Subsidiaries (except to the extent the security interest therein can be perfected by the filing of a Form UCC-1 (or similar) financing statement), captive insurance subsidiaries, not-for-profit subsidiaries, special purpose entities used for permitted securitization facilities and Unrestricted Subsidiaries (except to the extent the security interest therein can be perfected by the filing of a Form UCC-1 (or similar) financing statement),

(5) margin stock,

(6) any property or asset the grant or perfection of a security interest in which would (i) require governmental consent, approval, license or authorization unless such consent, approval, license or authorization has been received, (ii) be prohibited by enforceable anti-assignment provisions of applicable law, except to the extent such prohibition would be rendered ineffective under the UCC or other applicable law notwithstanding such prohibition, or (iii) be prohibited by enforceable anti-assignment provisions of contracts governing such asset in existence on the Issue Date (or on the date of acquisition of the relevant asset (and in each case not entered into in anticipation of the Issue Date or such acquisition and except, in each case, to the extent that term in such contract providing for such prohibition purports to prohibit the granting of a security interest over all assets of such Guarantor or the Issuer, as applicable)) other than to the extent such prohibition would be rendered ineffective under the UCC or other applicable law,

(7) any "intent-to-use" trademark applications prior to the filing of a "Statement of Use" or "Amendment to Allege Use" with respect thereto, to the extent, if any, that, and solely during the period, if any, in which, the grant of a security interest therein would impair the validity or enforceability of such intent-to-use trademark application under applicable federal law,

(8) commercial tort claims with a value (as reasonably estimated by the Issuer) of less than $15 million,

(9) Tax and Trust Funds, and

(10) such other assets to the extent subject to exceptions and limitations set forth in the Indenture and the Security Documents.

In addition to the provisions described below under "Intercreditor Agreements," the security interests securing the Notes and the Guarantees may also be subject to any other Permitted Liens.

Security Documents

On the Issue Date the Company, the Guarantors and the Collateral Agent will enter into one or more Security Documents defining the terms of the security interests that secure the Notes and the Guarantees. These security interests secure the payment and performance when due of all of the Obligations of the Issuer and the Guarantors under the Notes, the Indenture, the Guarantees and the Security Documents, as provided in the Security Documents. As of the Issue Date, Wells Fargo Bank, National Association will act as Collateral Agent on behalf of the Holders of Notes and the Trustee.

Subject to the terms of the Security Documents, the Company and the Guarantors will have the right to remain in possession and retain exclusive control of the Collateral securing the Notes (other than any property constituting part of the Collateral and deposited with, or held by or on behalf of, the Pari Passu Agent in accordance with the provisions of the Security Documents and other than as set forth in the Security Documents), to freely operate the Collateral and to collect, invest and dispose of any income therefrom.

See "Risk Factors—Risks Related to the Notes—Bankruptcy laws may limit your ability to realize value from the collateral."

Intercreditor Agreements

Pari Passu Intercreditor Agreement

The Collateral Agent, on behalf of the Holders of the Notes, the representatives of the holders of any Additional Pari Passu Obligations (when and if any such representatives join the Pari Passu Intercreditor Agreement), the Term Loan Credit Agreement Agent, on behalf of the secured parties under the Term Loan Credit Agreement will enter into the Pari Passu Intercreditor Agreement on the Issue Date, which will be acknowledged by the Issuer and the Guarantors party to the Term Loan Credit Agreement, and which Pari Passu Intercreditor Agreement will set forth the relative rights and obligations of the holders of Pari Passu Obligations with respect to Shared Collateral. The Pari Passu Intercreditor Agreement will be binding on the Holders of Notes with respect to the matters described below to the same extent as such provisions apply to the Collateral Agent. The Pari Passu Intercreditor Agreement will provide that in the event of a conflict or inconsistency between the Pari Passu Intercreditor Agreement and any Security Documents, the Indenture or the Notes, the Pari Passu Intercreditor Agreement shall be controlling as between the holders of Pari Passu Obligations thereunder.

The Notes, on the one hand, and the Obligations under the Term Loan Credit Agreement, on the other hand, are each referred to as a "series" of Pari Passu Obligations in this summary. The Pari Passu Intercreditor Agreement may be amended without the consent of any Holder of a Note to add additional series of Pari Passu Obligations incurred in accordance with the limitations in the Indenture.

This summary of the Pari Passu Intercreditor Agreement also uses the following terms:

"*Applicable Authorized Representative*" means, with respect to any Shared Collateral, (i) until the earlier of the discharge of Obligations under the Term Loan Credit Agreement (the "Discharge of Term Loan Obligations") and the Non-Controlling Representative Enforcement Date, the Term Loan Credit Agreement Agent and (ii) from and after earlier of the Discharge of the Term Loan Obligations and the Non-Controlling Representative Enforcement Date, the Major Non-Controlling Authorized Representative.

"*Authorized Representative*" means, at any time, (i) in the case of any Obligations under the Term Loan Credit Agreement, the Term Loan Credit Agreement Agent, (ii) in the case of the Notes, the Collateral Agent, and (iii) in the case of any other series of Pari Passu Obligations that become subject to the Pari Passu Intercreditor Agreement, the collateral agent named as authorized representative for such series in the applicable joinder agreement.

"*Collateral*" means all assets and properties subject to liens created pursuant to any Security Document to secure one or more series of Pari Passu Obligations and shall include any property or assets subject to replacement liens or adequate protection liens in favor of any applicable secured party.

"*Controlling Secured Parties*" means, with respect to any Shared Collateral, the secured parties with respect to the series of Pari Passu Obligations whose Authorized Representative is the Applicable Authorized Representative for such Shared Collateral.

"*Major Non-Controlling Authorized Representative*" means, with respect to any Shared Collateral, the Authorized Representative of the series of Pari Passu Obligations (other than the Obligations under the Term Loan Credit Agreement) that constitutes the largest outstanding principal amount of any then outstanding series of Pari Passu Obligations with respect to such Shared Collateral.

"*Non-Controlling Authorized Representative*" means, at any time with respect to any Shared Collateral, any Authorized Representative that is not the Applicable Authorized Representative at such time with respect to such Shared Collateral.

"*Non-Controlling Representative Enforcement Date*" means, with respect to any Non-Controlling Authorized Representative, the date which is 180 days after the occurrence of both (i) an Event of Default (under and as defined in the instrument in respect of which such Non-Controlling Authorized Representative is the Authorized Representative) and (ii) each Authorized Representative's receipt of written notice from such Non-Controlling Authorized Representative certifying that an Event of Default (under and as defined in the instrument in respect of which such Non-Controlling Authorized Representative is the Authorized Representative) has occurred and is continuing; provided that the Non-Controlling Representative Enforcement Date shall be stayed and shall not occur and shall be deemed not to have occurred (1) at any time that the Applicable Authorized Representative has commenced and is diligently pursuing an enforcement action with respect to all or a material portion of the Shared Collateral or (2) as to the Issuer or any Guarantor, at any time the Issuer or such Guarantor which has granted a security interest in the Shared Collateral is then a debtor under or with respect to (or otherwise subject to) any insolvency or liquidation proceeding.

"*Shared Collateral*" means, at any time, Collateral in which the holders of two or more series of Pari Passu Obligations (or their respective Authorized Representatives) hold a valid and perfected security interest or Lien at such time. If more than two series of Pari Passu Obligations are outstanding at any time and the holders of less than all series of Pari Passu Obligations hold a valid and perfected security interest or Lien in any Collateral at such time, then such Collateral shall constitute Shared Collateral for those series of Pari Passu Obligations that hold a valid and perfected security interest in such Collateral at such time and shall not constitute Shared Collateral for any series which does not have a valid and perfected security interest or Lien in such Collateral at such time.

Role of the Applicable Authorized Representative. Pursuant to the Pari Passu Intercreditor Agreement but subject to the ABL Intercreditor Agreement, with respect to any Shared Collateral:

(i) the Applicable Authorized Representative has the sole right to act or refrain from acting with respect to the Shared Collateral;

(ii) the Applicable Authorized Representative is not under any duty to follow any instructions with respect to the Shared Collateral from any other Pari Passu Agent or holders of Pari Passu Obligations other than the Controlling Secured Parties in accordance with the applicable underlying controlling agreements; and

(iii) no Pari Passu Agent or holders of Pari Passu Obligations other than the Controlling Secured Parties may instruct the Applicable Authorized Representative to, and no Authorized Representative except the Applicable Authorized Representative shall, commence any judicial or non-judicial foreclosure proceedings with respect to, seek to have a trustee, receiver, liquidator or similar official appointed for or over, attempt any action to take possession of, exercise any right, remedy or power with respect to, or otherwise take any action to enforce its interests in or realize upon, or take any other action available to it in respect of, any Shared Collateral.

Notwithstanding the equal priority of the Liens securing each series of Pari Passu Obligations on any Shared Collateral, the Applicable Authorized Representative may deal with the Collateral as if the Applicable Authorized Representative had a senior and exclusive Lien on such Shared Collateral. No Non-Controlling Authorized Representative or the holders of Pari Passu Obligations (other than the Controlling Secured Parties) may contest, protest or object to any foreclosure proceeding or action brought by the Applicable Authorized Representative or any Controlling Secured Party or any other exercise by the Applicable Authorized Representative or any Controlling Secured Party of any rights and remedies relating to the Shared Collateral, in each case, performed in accordance with the terms of the Pari Passu Intercreditor Agreement. Each Pari Passu Agent party to the Pari Passu Intercreditor Agreement will not (and waives any right to) contest or support any other person in contesting, in any proceeding (including any insolvency or liquidation proceeding), the perfection, priority, validity, attachment or enforceability of a Lien held by or on behalf of any of the secured parties with respect to any series of Pari Passu Obligations in all or any part of the Collateral subject to the Pari Passu Intercreditor Agreement.

In addition, each secured party with respect to any series of Pari Passu Obligations (i) will not take or cause to be taken any action the purpose or intent of which is, or could be, to interfere with, hinder or delay, in any manner, whether by judicial proceedings or otherwise, any sale, transfer or other disposition of the Shared Collateral by the Applicable Authorized Representative, (ii) will not institute any suit or assert in any suit, bankruptcy, insolvency or other proceeding any claim against the Applicable Authorized Representative or any other secured party with respect to any series of Pari Passu Obligations seeking damages from or other relief by way of specific performance, instructions or otherwise with respect to any Shared Collateral, (iii) will not seek, and waives any right to have any Shared Collateral or any part thereof marshaled upon any foreclosure or other disposition of such Shared Collateral and (iv) will not attempt, directly or indirectly, whether by judicial proceedings or otherwise, to challenge the enforceability of any provision of the Pari Passu Intercreditor Agreement.

Distribution of Enforcement Proceeds. If an Event of Default (under and as defined in an instrument governing any series of Pari Passu Obligations) has occurred and is continuing and the Applicable Authorized Representative or any holder of Pari Passu Obligations is taking action to enforce rights in respect of any Shared Collateral, or any distribution is made in respect of any Shared Collateral in any insolvency or liquidation proceeding of any grantor of Collateral or otherwise, or any holder of Pari Passu Obligations receives any payment pursuant to any intercreditor agreement (other than the Pari Passu Intercreditor Agreement but including the ABL Intercreditor Agreement) with respect to any Shared Collateral, the proceeds of any sale, collection or other liquidation or disposition of any such Shared Collateral received by the Applicable Authorized Representative or any holder of Pari Passu Obligations pursuant to any such intercreditor agreement or otherwise with respect to such Shared Collateral and the proceeds of any such distribution, shall be applied as follows, subject to the ABL Intercreditor Agreement:

(i) first, to the payment in full in cash of all amounts owing to the Pari Passu Agents (in their capacity as such) pursuant to the terms of the Pari Passu Intercreditor Agreement and any instrument pursuant to which a series of Pari Passu Obligations is incurred; and

(ii) second, subject to certain limited exceptions, to the payment in full of the Pari Passu Obligations of each series on a ratable basis in accordance with the terms of the applicable instrument pursuant to which such Pari Passu Obligations have been incurred; and

(iii) third, after the payment in full in cash of all Pari Passu Obligations secured by a lien on such Shared Collateral, to the relevant grantor or its successor or assigns or to whomever may be lawfully entitled thereto or as a court of competent jurisdiction may direct.

Notwithstanding the foregoing, in the event of (x) any determination by a court of competent jurisdiction with respect to the Pari Passu Obligations of any series that (i) any of the Pari Passu Obligations of such series are unenforceable under applicable law or are subordinated to any other obligations (other than another series of

Pari Passu Obligations), (ii) any of the Pari Passu Obligations of such series do not have an enforceable security interest in any of the Collateral securing any other series of Pari Passu Obligations and/or (iii) any intervening security interest exists securing any other obligations (other than any other series of Pari Passu Obligations) on a basis ranking prior to the security interest of such series of Pari Passu Obligations but junior to the security interest of any other series of Pari Passu Obligations or (y) the existence of any Collateral for any other series of Pari Passu Obligations that is not Shared Collateral for such series of Pari Passu Obligations (any such condition referred to in the foregoing clauses (x) or (y) with respect to any series of Pari Passu Obligations, an "*Impairment*" of such series of Pari Passu Obligations), the results of such Impairment shall be borne solely by the holders of such series of Pari Passu Obligations, and the rights of the holders of such series of Pari Passu Obligations (including, without limitation, the right to receive distributions in respect of such series of Pari Passu Obligations) set forth in the Pari Passu Intercreditor Agreement shall be modified to the extent necessary so that the effects of such Impairment are borne solely by the holders of such series of Pari Passu Obligations subject to such Impairment. Notwithstanding the foregoing, with respect to any Shared Collateral for which a third party (other than a holder of Pari Passu Obligations) has a lien or security interest that is junior in priority to the security interest of any series of Pari Passu Obligations but senior (as determined by appropriate legal proceedings in the case of any dispute) to the security interest of the holder of any other series of Pari Passu Obligations (such third party, an "*Intervening Creditor*"), the value of any Collateral or proceeds which are allocated to such Intervening Creditor shall be deducted solely from the Collateral or proceeds to be distributed in respect of the series Pari Passu Obligations with respect to which such Impairment exists.

Turnover. If any holder of Pari Passu Obligations obtains possession of any Shared Collateral or realizes any proceeds or payment in respect of any such Shared Collateral, pursuant to any Security Document or by the exercise of any rights available to it under applicable law or in any insolvency or liquidation proceeding or through any other exercise of remedies (including pursuant to any intercreditor agreement), at any time prior to the discharge of the Pari Passu Obligations, then such party shall hold such Shared Collateral, proceeds or payment in trust for the other holders of Pari Passu Obligations and promptly transfer such Shared Collateral, proceeds or payment, as the case may be, to the Applicable Authorized Representative, to be distributed in accordance with the provisions described in "—Distribution of Enforcement Proceeds" above.

Automatic Release of Liens. If, at any time, the Applicable Authorized Representative forecloses upon or otherwise exercises remedies against any Shared Collateral resulting in a sale or disposition thereof, then (whether or not any insolvency or liquidation proceeding is pending at the time) the Liens in favor of each Pari Passu Agent for the benefit of the secured parties of the applicable series will automatically be released and discharged; *provided* that any proceeds of any Shared Collateral realized therefrom shall be applied as described in "—Distribution of Enforcement Proceeds" above.

ABL Intercreditor Agreement

The ABL Agent, the Term Loan Credit Agreement Agent and the Collateral Agent will enter into the ABL Intercreditor Agreement on the Issue Date. The ABL Intercreditor Agreement will be binding on the Holders of the Notes. The ABL Intercreditor Agreement may be amended without the consent of any holder of Notes to add additional Authorized Representatives that are parties to the Pari Passu Intercreditor Agreement as representatives for the holders of Pari Passu Obligations. The ABL Intercreditor Agreement will provide that in the event of a conflict between the ABL Intercreditor Agreement and any other Intercreditor Agreement, the ABL Intercreditor Agreement shall be controlling as between the holders of ABL Obligations and Pari Passu Obligations thereunder until its termination. The "Designated Term Representative" will represent each of the Holders of the Notes, the lenders under the Term Loan Credit Agreement and the holders of any other Pari Passu Obligations for certain purposes under the ABL Intercreditor Agreement, and the identity of such "Designated Term Representative" from time to time will be the representative designated as the "Applicable Authorized Representative" under the Pari Passu Intercreditor Agreement.

The ABL Intercreditor Agreement will provide, among other things:

Lien Priority. Notwithstanding the time, order or method of creation or perfection of any liens securing the ABL Obligations and any Liens securing the Notes or any other Pari Passu Obligations, (i) the Liens on the ABL Priority Collateral securing the ABL Obligations rank senior to any Liens securing the Notes or any other Pari Passu Obligations on the ABL Priority Collateral and (ii) the Liens securing the Notes or any other Pari Passu Obligations on the Notes Priority Collateral will rank senior to any Liens securing the ABL Obligations on the Notes Priority Collateral.

Prohibition on Contesting Liens and Obligations. No holder of any Note or other Pari Passu Obligations may contest the validity or enforceability of the Liens securing the ABL Obligations, and no holder of any ABL Obligations may contest the validity or enforceability of the Liens securing the Notes or any other Pari Passu Obligations.

Exercise of Remedies and Release of Liens. The ABL Agent will have the sole power to exercise remedies against the ABL Priority Collateral (subject to the right of the Pari Passu Agents and the Holders of Notes and other Pari Passu Obligations to take limited protective measures with respect to the Liens securing the Notes and other Pari Passu Obligations and to take certain actions that would be permitted to be taken by unsecured creditors not otherwise in contravention of the ABL Intercreditor Agreement) and to foreclose upon and dispose of the ABL Priority Collateral. The Designated Term Representative will have the sole power to exercise remedies against the Notes Priority Collateral (subject to the right of the ABL Agent and the holders of ABL Obligations to take limited protective measures and certain actions permitted to be taken by unsecured creditors not otherwise in contravention of the ABL Intercreditor Agreement) and to foreclose upon and dispose of the Notes Priority Collateral.

Upon (x) any disposition of any ABL Priority Collateral to a Restricted Subsidiary that guarantees the ABL Obligations but does not guarantee the Notes or other Pari Passu Obligations, so long as such disposition is not prohibited under the Indenture, the Term Loan Credit Agreement or any other agreement governing the Pari Passu Obligations or (y) any disposition of ABL Priority Collateral that is either (i) not prohibited by the Indenture, the Term Loan Credit Agreement or any other agreement governing any other Pari Passu Obligations or (ii) occurs in connection with the foreclosure of or other exercise of remedies with respect to ABL Priority Collateral by the ABL Agent, in each case, which results in the release of the Liens securing the ABL Obligations on such item of ABL Priority Collateral, the Liens securing the Notes and the other Pari Passu Obligations on such item of ABL Priority Collateral will be automatically released. Upon any disposition of any Notes Priority Collateral that is either (i) not prohibited under the documents governing the ABL Obligations or (ii) occurs in connection with the foreclosure of or other exercise of remedies with respect to the Notes Priority Collateral by the Designated Term Representative, in each case, which results in the release of the Liens securing the Pari Passu Obligations on such item of Notes Priority Collateral, the Liens securing the ABL Obligations on such item of Notes Priority Collateral will be automatically released.

ABL Agent's Access and Use Rights. Each Pari Passu Agent will permit the ABL Agent to have access to and use of certain items of Notes Priority Collateral prior to, and for a period of up to 180 days (subject to extension during periods when the ABL Agent is prohibited by law from exercising such rights) following, the foreclosure upon or taking possession of such item of Notes Priority Collateral by the applicable Pari Passu Agent in order to facilitate the ABL Agent's exercise of remedies with respect to the ABL Priority Collateral.

Tracing of Collateral and Treatment of Cash. Prior to the provision of a notice of default by the ABL Agent or a Pari Passu Agent to the other agent or an insolvency or liquidation proceeding (i) the ABL Agent will be authorized to apply all funds deposited under account control agreements to the repayment of the ABL Obligations in accordance with the ABL Credit Agreement and (ii) whether any asset was acquired by any Grantor with "proceeds" (within the meaning of the UCC and whether or not deposited under account control agreements) of ABL Priority Collateral or Notes Priority Collateral will be disregarded for purposes of determining whether such acquired asset thereafter constitutes ABL Priority Collateral or Notes Priority Collateral.

Application of Proceeds and Turnover Provisions. In connection with any enforcement action with respect to the Collateral or any insolvency or liquidation proceeding, all proceeds of (x) ABL Priority Collateral will first be applied to the repayment of all ABL Obligations before being applied to any obligations under the Notes or any other Pari Passu Obligations and (y) Notes Priority Collateral will first be applied to the repayment of all obligations under the Notes and any other Pari Passu Obligations before being applied to any ABL Obligations. If any holder of a Note, other Pari Passu Obligation or ABL Obligation receives any proceeds of Collateral in contravention of the foregoing, such proceeds will be turned over to the Designated Term Representative or ABL Agent, as applicable, for application in accordance with the foregoing.

Certain Matters in Connection with Liquidation and Insolvency Proceedings.

Debtor-in-Possession Financings. In connection with any insolvency or liquidation proceeding of an Issuer or any Guarantor, the ABL Agent may consent to certain debtor-in-possession financings secured by a Lien on the ABL Priority Collateral ranking prior to the Liens securing the Notes and other Pari Passu Obligations on such ABL Priority Collateral and junior to the Liens securing the Notes and other Pari Passu Obligations on the Notes Priority Collateral securing the Notes and other Pari Passu Obligations, or to the use of cash collateral constituting proceeds of ABL Priority Collateral without the consent of any holder of Notes or other Pari Passu Obligations, and no holder of a Note or other Pari Passu Obligations shall be entitled to object to (and will be deemed to have consented to) such use of cash collateral or debtor-in-possession financing, and no Holder of a Note or other Pari Passu Obligations may seek "adequate protection" in connection therewith (other than in the form of a lien on any additional items of collateral for the ABL Obligations which are granted in connection with such debtor-in-possession financing or use of cash collateral with the same relative priority as the other Liens on the Collateral governed by the ABL Intercreditor Agreement).

Relief from Automatic Stay; Bankruptcy Sales and Post-Petition Interest. No holder of a Note or any other First Lien Obligation may (x) seek relief from the automatic stay with respect to any ABL Priority Collateral without the consent of the ABL Agent, (y) object to any sale of any ABL Priority Collateral or any motion seeking relief from the automatic stay in any insolvency or liquidation proceeding, in each case which has been supported by the holders of ABL Obligations or (z) object to any claim of any holder of ABL Obligations to post-petition interest to the extent of its Lien on the ABL Priority Collateral. No holder of any ABL Obligation may (x) seek relief from the automatic stay with respect to any Notes Priority Collateral without the consent of the Designated Term Representative, (y) object to any sale of any Notes Priority Collateral or any motion seeking relief from the automatic stay with respect to the Notes Priority Collateral in any insolvency or liquidation proceeding, in each case, which is supported by the Holders of the Notes and other Pari Passu Obligations or (z) object to any claim of any holder of Notes or other Pari Passu Obligations to post-petition interest to the extent of its Lien on the Notes Priority Collateral.

Adequate Protection. No holder of a Note or any other Pari Passu Obligations may (i) except as expressly provided above with regard to debtor-in-possession financings, seek adequate protection on account of its Lien on the ABL Priority Collateral other than in the form of junior priority liens or (ii) object to any request by the holders of ABL Obligations for adequate protection on account of the ABL Priority Collateral (other than with respect to payments from proceeds of Notes Priority Collateral). No holder of any ABL Obligation may (i) except as expressly provided above with regard to debtor-in-possession financings, seek adequate protection on account of its Lien on the Notes Priority Collateral other than in the form of junior priority liens or (ii) object to any request by the Holders of Notes or other Pari Passu Obligations for adequate protection on account of the Notes Priority Collateral (other than with respect to payments from the proceeds of ABL Priority Collateral).

Plans of Reorganization. Neither the ABL Agent, the Collateral Agent nor any holder of any ABL Obligations, Notes or other Pari Passu Obligations may support any plan of reorganization in any insolvency or liquidation proceeding which contravenes the intercreditor provisions described above (unless consented to by the ABL Agent or each Pari Passu Agent, as applicable, representing the holders of the Liens entitled to the benefit of such contravened intercreditor provisions).

Release of Collateral

In addition to releases pursuant to the Intercreditor Agreements, subject to the terms of the Indenture and the Security Documents the Issuer and the Guarantors are entitled to the releases of property and other assets included in the Collateral from the Liens securing the Notes and the Guarantees under any one or more of the following circumstances:

(1) to enable us to consummate the disposition of such property or assets to the extent not prohibited under the covenant described under "Repurchase at the Option of Holders—Asset Sales";

(2) in the case of a Guarantor that is released from its Guarantee with respect to the Notes, the release of the property and assets of such Guarantor; or

(3) as described under "Amendment, Supplement and Waiver" below.

The first-priority security interests in all Collateral securing the Notes or the Guarantees also will be released upon (i) payment in full of the principal of, together with accrued and unpaid interest on, the Notes and all other Obligations under the Indenture, under the Guarantees and under the Security Documents that are non-contingent and due and payable at or prior to the time such principal, together with accrued and unpaid interest, are paid (including pursuant to a satisfaction and discharge of the Indenture as described below under "Satisfaction and Discharge") or (ii) a legal defeasance or covenant defeasance under the Indenture as described below under "Legal Defeasance and Covenant Defeasance."

Paying Agent and Registrar for the Notes

The Issuer will maintain one or more paying agents for the Notes. The initial paying agent for the Notes will be the Trustee.

The Issuer will also maintain a registrar for the Notes. The initial registrar will be the Trustee. The registrar will maintain a register reflecting ownership of the Notes outstanding from time to time and will facilitate transfers of Notes on behalf of the Issuer.

The Issuer may change the paying agents or the registrars without prior notice to the Holders. The Issuer or any of its Subsidiaries may act as a paying agent or registrar.

Transfer and Exchange

A Holder may transfer or exchange Notes in accordance with the Indenture. The registrar and the Trustee may require a Holder to furnish appropriate endorsements and transfer documents in connection with a transfer of Notes. Holders will be required to pay all taxes due on transfer. The Issuer is not required to transfer or exchange any Note selected for redemption. Also, the Issuer is not required to transfer or exchange any Note for a period of 15 days before the sending of a notice of redemption.

Principal, Maturity and Interest

The Issuer will initially issue $500,000,000 in aggregate principal amount of Notes. The Issuer may issue additional Notes under the Indenture from time to time after this offering subject to compliance with the covenant described below under "Certain Covenants—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock" (the "*Additional Notes*"). The Notes offered hereby and any Additional Notes subsequently issued under the Indenture will be treated as a single class for all purposes under the Indenture, including waivers, amendments, redemptions and offers to purchase *provided* that if any Additional Notes are not fungible with the original notes for U.S. federal income tax purposes, such Additional Notes will have a separate CUSIP or ISIN number. Unless the context requires otherwise, references to "Notes" for all purposes of the Indenture and this "Description of Notes" include any Additional Notes.

Interest on the Notes will accrue at the rate of % per annum and be payable in cash. Interest on the Notes will be payable semi-annually in arrears on each and , commencing on , 2016. The Issuer will make each interest payment to the Holders of record of the Notes at the close of business on the immediately preceding and . Interest on the Notes will accrue from the most recent date to which interest has been paid with respect to such Notes, or if no interest has been paid with respect to such Notes, from the date of original issuance thereof. Interest will be computed on the basis of a 360-day year comprised of twelve 30-day months. The Notes will mature on , 2022 (a date that will be approximately six and one half years after the Issue Date) and will be issued in denominations of $2,000 and integral multiples of $1,000 in excess of $2,000.

Principal of, premium, if any, and interest on the Notes will be payable at the office or agency of the Issuer maintained for such purpose or, at the option of the Issuer, payment of interest may be made through the paying agent by check mailed to the Holders at their respective addresses set forth in the register of Holders; provided that all payments of principal, premium, if any, and interest with respect to the Notes represented by one or more global notes registered in the name of or held by The Depository Trust Company ("*DTC*") or its nominee will be made by wire transfer of immediately available funds to the accounts specified by the Holder or Holders thereof.

Mandatory Redemption; Offers to Purchase; Open Market Purchases

The Issuer is not required to make any mandatory redemption or sinking fund payments with respect to the Notes. However, under certain circumstances, the Issuer may be required to offer to purchase Notes as described under the caption "Repurchase at the Option of Holders." The Company or its Affiliates may at any time and from time to time purchase Notes in the open market or otherwise.

Optional Redemption

Except as set forth below, the Issuer will not be entitled to redeem Notes at its option prior to , 2019.

At any time prior to , 2019, the Issuer may redeem all or a part of the Notes, at its option, at any time or from time to time, upon not less than 30 nor more than 60 days' prior notice mailed by first class mail to the registered address of each Holder of Notes or otherwise delivered in accordance with the procedures of DTC, at a redemption price equal to 100% of the principal amount of the Notes redeemed plus the Applicable Premium as of, and accrued and unpaid interest, if any, to, but not including, the date of redemption (the "*Redemption Date*"), subject to the rights of Holders of record at the close of business on the relevant record date to receive interest due on the relevant interest payment date falling prior to or on the Redemption Date.

On and after , 2019, the Issuer may redeem the Notes, at its option, in whole at any time or in part from time to time, upon notice as described under the heading "—Selection and Notice," at the redemption prices (expressed as percentages of principal amount of the Notes to be redeemed) set forth below, plus accrued and unpaid interest thereon, if any, to, but not including, the applicable Redemption Date, subject to the right of Holders of record at the close of business on the relevant record date to receive interest due on the relevant interest payment date falling prior to or on the Redemption Date, if redeemed during the twelve-month period beginning on of each of the years indicated below:

Year	Percentage
2019	%
2020	%
2021 and thereafter	%

In addition, until , 2019, the Issuer may, at its option, on one or more occasions redeem up to 40% of the aggregate principal amount of Notes (including the aggregate principal amount of Additional Notes) at a redemption price equal to % of the aggregate principal amount thereof, plus accrued and unpaid interest thereon, if any, to, but not including, the applicable Redemption Date, subject to the right of Holders of record at the close of business on the relevant record date to receive interest due on the relevant interest payment date falling prior to or on the Redemption Date, with the net cash proceeds of one or more Equity Offerings; *provided* that at least 50% of the sum of the aggregate principal amount of Notes originally issued under the Indenture and any Additional Notes remain outstanding immediately after the occurrence of each such redemption; *provided further* that each such redemption occurs within 180 days of the date of closing of each such Equity Offering upon not less than 30 nor more than 60 days' notice sent to each Holder of Notes being redeemed and otherwise in accordance with the procedures set forth in the Indenture.

Notwithstanding the foregoing, in connection with any tender offer for the Notes, including a Change of Control Offer or Asset Sale Offer, if Holders of not less than 90% in aggregate principal amount of the outstanding Notes validly tender and do not withdraw such Notes in such tender offer and the Issuer or any third party making a such tender offer in lieu of the Issuer, purchases all of the Notes validly tendered and not withdrawn by such Holders, the Issuer or such third party will have the right upon not less than 15 nor more than 60 days' prior notice, given not more than 15 days following such purchase date, to redeem all Notes that remain outstanding following such purchase at a redemption price equal to the price offered to each other Holder in such tender offer plus, to the extent not included in the tender offer payment, accrued and unpaid interest, if any, thereon, to, but not including, the date of such redemption.

Notice of any redemption of Notes described above may be given prior to such redemption, and any such redemption or notice may, at the Issuer's discretion, be subject to one or more conditions precedent, including, but not limited to, completion of the relevant Equity Offering, other offering or other transaction or event. In addition, if such redemption is subject to satisfaction of one or more conditions precedent, such notice shall describe each such condition and, if applicable, shall state that, in the Issuer's discretion, the Redemption Date may be delayed until such time (including more than 60 days after the date the notice of redemption was mailed or delivered, including by electronic transmission) as any or all such conditions shall be satisfied (or waived by the Issuer in its sole discretion), or such redemption may not occur and such notice may be rescinded in the event that any or all such conditions shall not have been satisfied by the Redemption Date, or by the Redemption Date as so delayed. The Issuer will provide prompt written notice to the Trustee rescinding such redemption in the event that any such condition precedent shall not have occurred, and such redemption and notice of redemption shall be rescinded and of no force or effect. Upon receipt of such notice from the Issuer rescinding such redemption, the Trustee will promptly send a copy of such notice to the Holders of the Notes to be redeemed in the same manner in which the notice of redemption was given.

The Trustee shall select the Notes to be redeemed in the manner described under "—Selection and Notice."

Repurchase at the Option of Holders

Change of Control

The Indenture will provide that, if a Change of Control occurs after the Issue Date, unless the Issuer has previously or concurrently sent a redemption notice with respect to all the outstanding Notes as described under "*Optional Redemption*," the Issuer will make an offer to purchase all of the Notes pursuant to the offer described below (the "*Change of Control Offer*") at a price in cash (the "*Change of Control Payment*") equal to 101% of the aggregate principal amount thereof plus accrued and unpaid interest, if any, to, but not including, the date of purchase, subject to the right of Holders of record of the Notes at the close of business on the relevant record date to receive interest due on the relevant interest payment date falling prior to or on the redemption date. Within 30 days following any Change of Control occurring after the Issue Date, the Issuer will send notice of such Change of Control Offer by first-class mail, with a copy to the Trustee, to each Holder of Notes to the registered address of such Holder or otherwise electronically in accordance with the procedures of DTC, with the following information:

(1) that a Change of Control Offer is being made pursuant to the covenant entitled "Repurchase at the Option of Holders—Change of Control," and that all Notes properly tendered pursuant to such Change of Control

Offer will be accepted for payment by the Issuer at a repurchase price in cash equal to 101% of the principal amount thereof, plus accrued and unpaid interest to, but not including, the date of repurchase, subject to the right of Holders of record of the Notes at the close of business on the relevant record date to receive interest due on the relevant interest payment date;

(2) the purchase price and the purchase date, which will be no earlier than 30 days nor later than 60 days from the date such notice is mailed or otherwise delivered, subject to extension (in the case where such notice is mailed or otherwise delivered prior to the occurrence of a Change of Control as described below) in the event that the occurrence of the Change of Control is delayed (the "*Change of Control Payment Date*");

(3) that any Note not properly tendered will remain outstanding and continue to accrue interest;

(4) that unless the Issuer defaults in the payment of the Change of Control Payment, all Notes accepted for payment pursuant to the Change of Control Offer will cease to accrue interest on the Change of Control Payment Date;

(5) if such written notice is sent prior to the occurrence of a Change of Control, stating that the Change of Control Offer is conditional on the occurrence of such Change of Control and shall describe each such condition, and, if applicable, shall state that, in the Issuer's discretion, the Change of Control Payment Date may be delayed until such time (including more than 60 days after the notice is mailed or delivered, including by electronic transmission) as any or all such conditions shall be satisfied, or that such redemption may not occur and such notice may be rescinded or amended in the event that the Company shall determine that the Change of Control will not occur by the Change of Control Payment Date, or by the Change of Control Payment Date as so delayed;

(6) that Holders electing to have any Notes purchased pursuant to a Change of Control Offer will be required to surrender such Notes, with the form entitled "Option of Holder to Elect Purchase" on the reverse of such Notes completed, to the paying agent specified in the notice at the address specified in the notice prior to the close of business on the third Business Day preceding the Change of Control Payment Date;

(7) that Holders will be entitled to withdraw their tendered Notes and their election to require the Issuer to purchase such Notes, provided that the paying agent receives, not later than the close of business on the second Business Day prior to the Change of Control Payment Date, an electronic transmission (PDF), facsimile transmission or letter setting forth the name of the Holder of the Notes with proof of ownership, the principal amount of Notes tendered for purchase, and a statement that such Holder is withdrawing its tendered Notes and its election to have such Notes purchased; and

(8) the other instructions, as determined by the Issuer, consistent with the covenant described hereunder, that a Holder must follow.

Notes repurchased by the Issuer pursuant to a Change of Control Offer will have the status of Notes issued but not outstanding or will be retired and cancelled at the option of the Issuer. Notes purchased by a third party pursuant to the preceding paragraph will have the status of Notes issued and outstanding.

The Issuer will comply with the requirements of Rule 14e-1 under the Exchange Act and any other securities laws and regulations thereunder to the extent such laws or regulations are applicable in connection with the repurchase by the Issuer of Notes pursuant to a Change of Control Offer. To the extent that the provisions of any securities laws or regulations conflict with the provisions of the Indenture, the Issuer will comply with the applicable securities laws and regulations and shall not be deemed to have breached its obligations described in the Indenture by virtue thereof.

On or before, as applicable, the Change of Control Payment Date, the Issuer will, to the extent permitted by law,

(1) accept for payment all Notes issued by it or portions thereof properly tendered pursuant to the Change of Control Offer;

(2) deposit with the paying agent an amount equal to the aggregate Change of Control Payment in respect of all Notes or portions thereof so tendered; and

(3) deliver, or cause to be delivered, to the Trustee for cancellation the Notes so accepted together with an Officer's Certificate to the Trustee stating that such Notes or portions thereof have been tendered to and purchased by the Issuer.

The Senior Credit Facilities will prohibit or limit, and future credit agreements or other agreements to which the Issuer becomes a party may prohibit or limit, the Issuer from purchasing any Notes as a result of a Change of Control. In the event a Change of Control occurs at a time when the Issuer is prohibited from purchasing the Notes, the Issuer could seek the consent of its lenders to permit the purchase of the Notes or could attempt to refinance the borrowings that contain such prohibition. If the Issuer does not obtain such consent or repay such borrowings, the Issuer will remain prohibited from purchasing the Notes. In such case, the Issuer's failure to purchase tendered Notes after any applicable notice and lapse of time would constitute an Event of Default under the Indenture which would, in turn, likely constitute a default under such other agreements.

The Senior Credit Facilities will provide, and future credit agreements or other agreements relating to senior indebtedness to which the Issuer becomes a party may provide, that certain change of control events with respect to the Issuer would constitute a default thereunder (including a Change of Control under the Indenture). If we experience a change of control event that triggers a default thereunder, we could seek a waiver of such default or seek to refinance such Indebtedness. In the event we do not obtain such a waiver or refinance such Indebtedness, such default could result in amounts outstanding under such Indebtedness being declared due and payable.

Our ability to pay cash to the Holders of Notes following the occurrence of a Change of Control may be limited by our then-existing financial resources. Therefore, sufficient funds may not be available when necessary to make any required repurchases. See "Risk Factors—Risks Related to the Notes—We may not be able to repurchase the notes upon a change of control."

The Change of Control purchase feature of the Notes may in certain circumstances make more difficult or discourage a sale or takeover of the Company and, thus, the removal of incumbent management. The Change of Control purchase feature is a result of negotiations between the Initial Purchasers and us. After the Issue Date, we have no present intention to engage in a transaction involving a Change of Control, although it is possible that we could decide to do so in the future. Subject to the limitations discussed below, we could, in the future, enter into certain transactions, including acquisitions, refinancings or other recapitalizations, that would not constitute a Change of Control under the Indenture, but that could increase the amount of indebtedness outstanding at such time or otherwise affect our capital structure or credit ratings. Restrictions on our ability to incur additional Indebtedness are contained in the covenants described under "Certain Covenants—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock" and "Certain Covenants—Liens." Such restrictions in the Indenture can be waived only with the consent of the Holders of a majority in principal amount of the Notes then outstanding. Except for the limitations contained in such covenants, however, the Indenture will not contain any covenants or provisions that may afford Holders protection in the event of a highly leveraged transaction.

We will not be required to make a Change of Control Offer following a Change of Control if a third party makes the Change of Control Offer in the manner, at the times and otherwise in compliance with the requirements set forth in the Indenture applicable to a Change of Control Offer made by us and purchases all Notes validly tendered and not withdrawn under such Change of Control Offer. Notwithstanding anything to the contrary herein, a Change of Control Offer may be made in advance of a Change of Control, conditional upon such Change of Control, if a definitive agreement is in place for the Change of Control at the time of making of the Change of Control Offer.

The definition of "Change of Control" includes a disposition of all or substantially all of the assets of the Company to any Person. Although there is a limited body of case law interpreting the phrase "substantially all" under New York law, which governs the Indenture, there is no precise established definition of the phrase under applicable law. Accordingly, in certain circumstances there may be a degree of uncertainty as to whether a particular transaction would involve a disposition of "all or substantially all" of the assets of the Company. As a result, it may be unclear as to whether a Change of Control has occurred and whether a Holder of Notes may require the Issuer to make an offer to repurchase the Notes as described above.

The provisions under the Indenture relative to the Issuer's obligation to make an offer to repurchase the Notes as a result of a Change of Control may be waived or modified with the written consent of the Holders of a majority in aggregate principal amount of the Notes then outstanding. A Change of Control Offer may be made at the same time as consents are solicited with respect to an amendment, supplement or waiver of the Indenture, the Notes and/or the Guarantees.

Asset Sales

The Indenture will provide that the Company will not, and will not permit any of its Restricted Subsidiaries to, consummate an Asset Sale, unless:

(1) the Company or such Restricted Subsidiary, as the case may be, receives consideration (including by way of relief from, or by any other Person assuming responsibility for, any liabilities, contingent or otherwise, in connection with such Asset Sale) at the time of such Asset Sale at least equal to the fair market value as determined in good faith by the Company (such fair market value to be determined on the date of contractually agreeing to such Asset Sale) of the assets sold or otherwise disposed of; and

(2) except in the case of a Permitted Asset Swap, at least 75% of the consideration received therefor by the Company or such Restricted Subsidiary, as the case may be, is in the form of Cash Equivalents; provided that the amount of:

(a) any liabilities (as shown on the Company's or such Restricted Subsidiary's most recent balance sheet or in the footnotes thereto, or if incurred or accrued subsequent to the date of such balance sheet, such liabilities that would have been reflected on the Company's or such Restricted Subsidiary's balance sheet or in the footnotes thereto if such incurrence or accrual had taken place on or prior to the date of such balance sheet, as determined in good faith by the Company) of the Company or such Restricted Subsidiary, other than liabilities that are by their terms subordinated to the Notes or the Guarantees, that are assumed by the transferee of any such assets or that are otherwise cancelled or terminated in connection with the transaction with such transferee and for which the Company and all of its Restricted Subsidiaries have been validly released by all creditors in writing,

(b) any securities, notes or other obligations or assets received by the Company or such Restricted Subsidiary from such transferee (including earnouts or similar obligations) that are converted by the Company or such Restricted Subsidiary into Cash Equivalents, or by their terms are required to be satisfied for Cash Equivalents (to the extent of the Cash Equivalents received) within 180 days following the closing of such Asset Sale,

(c) Indebtedness of any Restricted Subsidiary that is no longer a Restricted Subsidiary as a result of such Asset Sale, to the extent that the Company and each other Restricted Subsidiary are released from any guarantee of payment of such Indebtedness in connection with the Asset Sale, and

(d) any Designated Non-cash Consideration received by the Company or such Restricted Subsidiary in such Asset Sale having an aggregate fair market value, taken together with all other Designated Non-cash Consideration received pursuant to this clause (d) that is at that time outstanding, not to exceed the greater of (x) $75.0 million and (y) 1.5% of Consolidated Total Assets at the time of the receipt of such Designated Non-cash Consideration (or, at the Company's option, at the time of contractually agreeing to such Asset Sale), with the fair market value of each item of Designated Non-cash Consideration being measured at the time received and without giving effect to subsequent changes in value, shall be deemed to be Cash Equivalents for purposes of this provision and for no other purpose.

Within 365 days after the receipt of any Net Proceeds of any Asset Sale of Collateral (such Net Proceeds, "*Collateral Net Proceeds*"), the Company or such Restricted Subsidiary, at its option, may apply the Net Proceeds from such Asset Sale,

(1) to repay:

(a) Indebtedness constituting Pari Passu Obligations (other than the Notes) under the Pari Passu Intercreditor Agreement (and, if the Indebtedness repaid is revolving credit Indebtedness, to correspondingly reduce commitments with respect thereto), provided that, if the Company or any Restricted Subsidiary shall so reduce any such Pari Passu Obligations, the Company will equally and ratably reduce Obligations under the Notes as provided under "Optional Redemption," through open-market purchases (provided that such purchases are at or above 100.0% of the principal amount thereof or, if less, the accreted value thereof) or by making an offer whether or not accepted (in accordance with the procedures set forth below for a Collateral Asset Sale Offer) to all Holders to purchase their Notes at a purchase price equal to 100.0% of the principal amount thereof or, if less, the accreted value thereof, plus accrued and unpaid interest, if any, on the principal amount of Notes so purchased, or

(b) to the extent such Net Proceeds constitute proceeds from ABL Priority Collateral, Indebtedness under the ABL Credit Agreement (and to effect a corresponding reduction in commitments under the ABL Credit Agreement);

provided, that in the case of clause (a) above, (i) if an offer to purchase any Indebtedness constituting Pari Passu Obligations under the Pari Passu Intercreditor Agreement is made, such amount will be deemed repaid to the extent of the amount of such offer, whether or not accepted by the holders of such Indebtedness, and no Collateral Net Proceeds in the amount of such offer will be deemed to exist following such offer, and (ii) if the holder of any Indebtedness constituting Pari Passu Obligations under the Pari Passu Intercreditor Agreement declines the repayment of such Indebtedness constituting Pari Passu Obligations under the Pari Passu Intercreditor Agreement owed to it from such Collateral Net Proceeds, such amount will be deemed repaid to the extent of the declined Collateral Net Proceeds;

(2) to make (a) an Investment in any one or more businesses, *provided* that such Investment in any business is in the form of the acquisition of Capital Stock and results in the Company or any of its Restricted Subsidiaries, as the case may be, owning an amount of the Capital Stock of such business such that it constitutes a Restricted Subsidiary, (b) capital expenditures or (c) acquisitions of other properties or assets, in the case of each of (a), (b) and (c), used or useful in a Similar Business;

(3) to make an Investment in (a) any one or more businesses, *provided* that such Investment in any business is in the form of the acquisition of Capital Stock and results in the Company or any of its Restricted Subsidiaries, as the case may be, owning an amount of the Capital Stock of such business such that it constitutes a Restricted Subsidiary, (b) properties or (c) other assets that, in the case of each of (a), (b) and (c), replace the businesses, properties and/or other assets that are the subject of such Asset Sale; or

(4) any combination of the foregoing;

provided that, in the case of clauses (2) and (3) above, a binding commitment entered into not later than such 365th day shall extend the period for such Investment or other payment for an additional 180 days after the end of such 365-day period so long as the Company or such other Restricted Subsidiary enters into such commitment with the good faith expectation that such Net Proceeds will be applied to satisfy such commitment within 180 days of such commitment (an "*Acceptable Commitment*") and, in the event any Acceptable Commitment is later cancelled or terminated for any reason before the Net Proceeds are applied in connection therewith, the Company or such Restricted Subsidiary enters into another Acceptable Commitment (a "*Second Commitment*") within such 180-day period; *provided*, *further*, that (x) if any Second Commitment is later cancelled or terminated for any reason before such Net Proceeds are applied or (y) such Net Proceeds are not actually so invested or paid in accordance with clause (2) above by the end of such 180-day period, then such Net Proceeds shall constitute Excess Proceeds on the date of such cancellation or termination, or such 180th day, as applicable.

Any Collateral Net Proceeds from the Asset Sale of Collateral that are not invested or applied as provided and within the time period set forth in the preceding paragraph will be deemed to constitute "*Collateral Excess Proceeds*." When the aggregate amount of Collateral Excess Proceeds exceeds $40.0 million, the Company shall make an offer to all Holders of the Notes and, if required by the terms of any Pari Passu Obligations under the Pari Passu Intercreditor Agreement, to the holders of such other Pari Passu Obligations (a "*Collateral Asset Sale Offer*") to purchase the maximum aggregate principal amount of the Notes and such other Pari Passu Obligations that is in an amount equal to at least $2,000, that may be purchased out of the Collateral Excess Proceeds at an offer price in cash in an amount equal to 100.0% of the principal amount thereof (or accreted value thereof, if less), plus accrued and unpaid interest, if any, to the date fixed for the closing of such offer, in accordance with the procedures set forth in the Indenture. The Company will commence a Collateral Asset Sale Offer with respect to Collateral Excess Proceeds within thirty Business Days after the date that Collateral Excess Proceeds exceed $40.0 million by delivering the notice required pursuant to the terms of the Indenture, with a copy to the Trustee. The Company may satisfy the foregoing obligations with respect to any Collateral Net Proceeds from a Collateral Asset Sale by making a Collateral Asset Sale Offer (an "*Advance Offer*") with respect to all or a portion of any Collateral Net Proceeds (the "*Advance Portion*") prior to the expiration of the relevant 365 days (or such longer period provided above) or with respect to Collateral Excess Proceeds of $40.0 million or less.

To the extent that the aggregate amount of Notes and such other Pari Passu Obligations tendered pursuant to a Collateral Asset Sale Offer is less than the Collateral Excess Proceeds (or in the case of an Advance Offer, the Advance Portion), the Company shall be deemed to have complied with its obligations under the Indenture and may retain any remaining Collateral Excess Proceeds to be used for general corporate purposes. If the aggregate principal amount of Notes and such other Pari Passu Obligations tendered by holders thereof exceeds the amount of Collateral Excess Proceeds, the Trustee, subject to DTC customary procedures, shall select the Notes and the Company shall select the other Pari Passu Obligations to be purchased on a pro rata basis based on the accreted value or principal amount of the Notes or such other Pari Passu Obligations tendered with adjustments as necessary so that no Notes or other Pari Passu Obligations will be repurchased in part in an unauthorized denomination. Upon completion of any such Collateral Asset Sale Offer, the amount of Collateral Excess Proceeds shall be reset at zero. Additionally, upon consummation or expiration of any Advance Offer, any remaining Collateral Net Proceeds shall not be deemed Collateral Excess Proceeds and the Company may use such Collateral Net Proceeds in any manner not prohibited by the Indenture.

Within 365 days after the receipt of any Net Proceeds of any Asset Sale of non-Collateral, the Company or such Restricted Subsidiary, at its option, may apply the Net Proceeds from such Asset Sale,

(1) to repay:

(a) Obligations under any Indebtedness (other than Subordinated Indebtedness) of the Company or any Restricted Subsidiary (and if the Indebtedness repaid is revolving credit indebtedness, to correspondingly reduce commitments with respect thereto), provided that the Company shall equally and ratably reduce Obligations under the Notes as provided under "Optional Redemption," through open-market purchases (to the extent such purchases are at or above 100% of the principal amount thereof or, if less, the accreted value thereof) or by making an offer (in accordance with the procedures set forth below for an Asset Sale Offer) to all Holders to purchase their Notes at 100% of the principal amount thereof or, if less, the accreted value thereof, plus the amount of accrued but unpaid interest, if any, on the amount of Notes that would otherwise be prepaid; or

(b) Indebtedness of a Restricted Subsidiary that is not a Guarantor, other than Indebtedness owed to the Company or another Restricted Subsidiary;

provided, that in the case of clause (a) above, (i) if an offer to purchase any Indebtedness of the Company or any Restricted Subsidiary is made, such amount will be deemed repaid to the extent of the amount of such offer, whether or not accepted by the holders of such Indebtedness, and no Net Proceeds in the amount of such offer will be deemed to exist following such offer, and (ii) if the holder of any Indebtedness of the Company or any Restricted Subsidiary declines the repayment of such Indebtedness owed to it from such Net Proceeds, such amount will be deemed repaid to the extent of the declined Net Proceeds;

(2) to make (a) an Investment in any one or more businesses, *provided* that such Investment in any business is in the form of the acquisition of Capital Stock and results in the Company or any of its Restricted Subsidiaries, as the case may be, owning an amount of the Capital Stock of such business such that it constitutes a Restricted Subsidiary, (b) capital expenditures or (c) acquisitions of other properties or assets, in the case of each of (a), (b) and (c), used or useful in a Similar Business;

(3) to make an Investment in (a) any one or more businesses, *provided* that such Investment in any business is in the form of the acquisition of Capital Stock and results in the Company or any of its Restricted Subsidiaries, as the case may be, owning an amount of the Capital Stock of such business such that it constitutes a Restricted Subsidiary, (b) properties or (c) other assets that, in the case of each of (a), (b) and (c), replace the businesses, properties and/or other assets that are the subject of such Asset Sale; or

(4) any combination of the foregoing;

provided that, in the case of clauses (2) and (3) above, a binding commitment shall be treated as a permitted application of the Net Proceeds from the date of such commitment so long as the Company or such other Restricted Subsidiary enters into such commitment with the good faith expectation that such Net Proceeds will be applied to satisfy such commitment within 180 days of such commitment (an "*Acceptable Commitment*") and, in the event any Acceptable Commitment is later cancelled or terminated for any reason before the Net Proceeds are applied in connection therewith, the Company or such Restricted Subsidiary enters into another Acceptable Commitment (a "*Second Commitment*") within 180 days of such cancellation or termination (or, if later, 365 days after the receipt of such Net Proceeds); *provided* further that if any Second Commitment is later cancelled or terminated for any reason before such Net Proceeds are applied, then such Net Proceeds shall constitute Excess Proceeds (as defined below).

Notwithstanding the foregoing, to the extent that any or all of the Net Proceeds of any Asset Sales by a Foreign Subsidiary (a "*Foreign Disposition*") is prohibited or delayed by applicable local law from being repatriated to the United States, the portion of such Net Proceeds so affected will not be required to be applied in compliance with this covenant, and such amounts may be retained by the applicable Foreign Subsidiary so long, but only so long, as the applicable local law will not permit repatriation to the United States (the Company hereby agreeing to use reasonable efforts to cause the applicable Foreign Subsidiary to take all actions reasonably required by the applicable local law, applicable organizational impediments or other impediment to permit such repatriation), and if such repatriation of any of such affected Net Proceeds is permitted under the applicable local law, such repatriation will be promptly effected and such repatriated Net Proceeds will be applied (whether or not repatriation actually occurs) in compliance with this covenant.

Any Net Proceeds from any Asset Sale that are not invested or applied as provided and within the time period set forth in the preceding paragraph (it being understood that any portion of such Net Proceeds used to make an offer to purchase Notes, as described in clause (1) above, will be deemed to have been invested whether or not such offer is accepted) will be deemed to constitute "Excess Proceeds." When the aggregate amount of Excess Proceeds exceeds $40.0 million, the Company shall make an offer to all Holders and, at the option of the Company, to any holders of any Indebtedness that is *pari passu* with the Notes ("*Pari Passu Indebtedness*") (an "*Asset Sale Offer*"), to purchase the maximum aggregate principal amount of the Notes and such *Pari Passu* Indebtedness that is at least $2,000 and an integral multiple of $1,000 in excess thereof that may be purchased out of the Excess Proceeds at an offer price in cash in an amount equal to 100% of the principal amount thereof, or 100% of the accreted value thereof, if less, plus accrued and unpaid interest, if any, (or, in respect of such *Pari Passu* Indebtedness, such lesser price, if any, as may be provided for by the terms of such *Pari Passu*

Indebtedness) to, but not including, the date fixed for the closing of such offer, in accordance with the procedures set forth in the Indenture. The Company will commence an Asset Sale Offer with respect to Excess Proceeds within thirty Business Days after the date that Excess Proceeds exceed $40.0 million by sending the notice required pursuant to the terms of the Indenture, with a copy to the Trustee, or otherwise in accordance with the procedures of DTC. The Company may satisfy the foregoing obligation with respect to such Net Proceeds by making an Advance Offer with respect to the Advance Portion in advance of being required to do so by the Indenture or with respect to Excess Proceeds of $40.0 million or less.

To the extent that the aggregate amount of Notes and such *Pari Passu* Indebtedness tendered pursuant to an Asset Sale Offer is less than the Excess Proceeds (or in the case of an Advance Offer, the Advance Portion), the Company may use any remaining Excess Proceeds for general corporate purposes, subject to compliance with other covenants contained in the Indenture. If the aggregate principal amount of Notes and the *Pari Passu* Indebtedness surrendered in an Asset Sale Offer exceeds the amount of Excess Proceeds, the Trustee shall select the Notes to be purchased in the manner described under "—Selection and Notice" below. Selection of such *Pari Passu* Indebtedness will be made pursuant to the terms of such *Pari Passu* Indebtedness. Upon completion of any such Asset Sale Offer, the amount of Excess Proceeds shall be reset to zero (regardless of whether there are any remaining Excess Proceeds upon such completion). Additionally, upon consummation or expiration of any Advance Offer, any remaining Net Proceeds shall not be deemed Excess Proceeds and the Company may use such Net Proceeds for any purpose not otherwise prohibited under the Indenture.

Pending the final application of any Collateral Net Proceeds or Net Proceeds pursuant to this covenant, the holder of such Collateral Net Proceeds or Net Proceeds may apply such Collateral Net Proceeds or Net Proceeds temporarily to reduce Indebtedness outstanding under a revolving credit facility or otherwise invest such Collateral net Proceeds or Net Proceeds in any manner not prohibited by the Indenture.

The Company will comply with the requirements of Rule 14e-1 under the Exchange Act and any other securities laws and regulations thereunder to the extent such laws or regulations are applicable in connection with the repurchase of the Notes pursuant to a Collateral Asset Sale Offer or an Asset Sale Offer, as applicable. To the extent that the provisions of any securities laws or regulations conflict with the provisions of the Indenture, the Company will comply with the applicable securities laws and regulations and shall not be deemed to have breached its obligations described in the Indenture by virtue thereof.

The Senior Credit Facilities will prohibit or limit, and future credit agreements or other agreements to which the Company becomes a party may prohibit or limit, the Company from purchasing any Notes pursuant to this Asset Sales covenant. In the event the Company is prohibited from purchasing the Notes, the Company could seek the consent of its lenders to the purchase of the Notes or could attempt to refinance the borrowings that contain such prohibition. If the Company does not obtain such consent or repay such borrowings, it will remain prohibited from purchasing the Notes. In such case, the Company's failure to purchase tendered Notes would constitute an Event of Default under the Indenture which would, in turn, likely constitute a default under such other agreements.

Special Mandatory Offer to Purchase

Unless the Issuer has previously or concurrently sent a redemption notice with respect to all outstanding Notes as described under "Optional Redemption," if a Triggering Event (as defined below) occurs, each Holder will have the right to require the Issuer to repurchase all or any part (equal to at least $2,000 and an integral multiple of $1,000 in excess thereof) of that Holder's Notes pursuant to an offer (''*Triggering Event Repurchase Offer*'') for an amount equal to 100% of the principal amount thereof, plus accrued and unpaid interest, if any, to the date of repurchase.

A "*Triggering Event*" will be deemed to occur on the date six months prior to the Stated Maturity of the Existing Senior Notes, if on such date, any of the Existing Senior Notes shall remain outstanding.

Within three Business Days following a Triggering Event, the Issuer shall electronically deliver or mail a notice to each holder with a copy to the Trustee and the paying agent stating:

(1) that a Triggering Event has occurred and that such holder has the right to require the Issuer to repurchase such holder's Notes at a repurchase price in cash equal to 100% of the principal amount thereof, plus accrued and unpaid interest, if any, to the date of repurchase (subject to the right of holders of record on a record date to receive interest on the relevant interest payment date);

(2) the repurchase date (which shall be no later than 45 days from the date of the Triggering Event);

(3) the instructions determined by the Issuer, consistent with this covenant, that a Holder must follow in order to have its Notes purchased; and

(4) if such notice is electronically delivered or mailed prior to the occurrence of a Triggering Event, that such Triggering Event Repurchase Offer is conditioned on the occurrence of such Triggering Event.

For the avoidance of doubt, a Triggering Event Repurchase Offer may be made in advance of a Triggering Event, and be conditional upon such Triggering Event.

Notes repurchased by the Issuer pursuant to a Triggering Event Repurchase Offer will have the status of Notes issued but not outstanding or will be retired and canceled at the option of the Issuer.

The Company will comply with the requirements of Rule 14e-1 under the Exchange Act and any other securities laws and regulations thereunder to the extent such laws or regulations are applicable in connection with the repurchase of the Notes pursuant to a Collateral Asset Sale Offer or an Asset Sale Offer, as applicable. To the extent that the provisions of any securities laws or regulations conflict with the provisions of the Indenture, the Company will comply with the applicable securities laws and regulations and shall not be deemed to have breached its obligations described in the Indenture by virtue thereof.

Selection and Notice

If the Issuer is redeeming less than all of the Notes issued by it at any time, the Trustee will select the Notes to be redeemed by lot or by such other method as the Trustee shall deem fair and appropriate and otherwise in accordance with the procedures of DTC; *provided* that no Notes of $2,000, and integral multiples of $1,000 in excess thereof, or less shall be redeemed in part.

Notices of purchase or redemption shall be mailed by first-class mail, postage prepaid, at least 30 but not more than 60 days before the date of purchase or Redemption Date to each Holder of record of Notes at such Holder's registered address or otherwise delivered in accordance with the procedures of DTC, except that redemption notices may be mailed (or otherwise delivered in accordance with the procedures of DTC) more than 60 days prior to a redemption date if the notice is issued in connection with a defeasance of the Notes or a satisfaction and discharge of the Indenture. If any Note is to be purchased or redeemed in part only, any notice of purchase or redemption that relates to such Note shall state the portion of the principal amount thereof that has been or is to be purchased or redeemed.

The Issuer may issue a new Note in a principal amount equal to the unredeemed portion of the Note called for redemption or tendered for purchase in the name of the Holder upon cancellation of the redeemed or purchased Note (or if the Note is a Global Note, an adjustment shall be made to the schedule attached thereto), subject to the terms of the Indenture. Notes called for redemption become due on the date fixed for redemption. On and after the redemption date, interest ceases to accrue on Notes or portions thereof called for redemption, unless the Issuer defaults in the delivery of the redemption amount.

Certain Covenants

Set forth below are summaries of certain covenants that will be contained in the Indenture.

Covenant Suspension

If on any date following the Issue Date (i) the Notes have an Investment Grade Rating from both Rating Agencies and (ii) no Default has occurred and is continuing under the Indenture then, beginning on that day and continuing at all times thereafter until the Reversion Date, as defined below (the occurrence of the events described in the foregoing clauses (i) and (ii) being collectively referred to as a "*Covenant Suspension Event*"), the covenants specifically listed under the following captions in this "Description of Notes" (collectively, the "*Suspended Covenants*" and each individually, a "*Suspended Covenant*") will not be applicable to the Notes:

(1) "Repurchase at the Option of Holders—Asset Sales";

(2) "—Limitation on Restricted Payments";

(3) "—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock";

(4) clause (4) of the first paragraph of "—Merger, Consolidation or Sale of All or Substantially All Assets";

(5) "—Transactions with Affiliates";

(6) "—Dividend and other Payment Restrictions Affecting Restricted Subsidiaries";

(7) "—Future Subsidiary Guarantors"; and

(8) "Repurchase at the Option of Holders—Change of Control."

During a Suspension Period, the Company may not designate any of its Subsidiaries as Unrestricted Subsidiaries pursuant to the second sentence of the definition "Unrestricted Subsidiaries."

If and while the Company and the Restricted Subsidiaries are not subject to the Suspended Covenants, the Notes will be entitled to substantially less covenant protection. In the event that the Company and the Restricted Subsidiaries are not subject to the Suspended Covenants under the Indenture for any period of time as a result of the foregoing, and on any subsequent date (the "*Reversion Date*") (a) one or both of the Rating Agencies withdraw their Investment Grade Rating or downgrade the rating assigned to the Notes below an Investment Grade Rating, then the Company and the Restricted Subsidiaries will thereafter again be subject to the Suspended Covenants under the Indenture with respect to future events and (b) the Company or any of its Affiliates enters into an agreement to effect a transaction that would result in a Change of Control and one or more of the Rating Agencies indicate that if consummated, such transaction (alone or together with any related recapitalization or refinancing transactions) would cause such Rating Agency to withdraw its Investment Grade Rating or downgrade the ratings assigned to the Notes below Investment Grade Rating, then the Company and the Restricted Subsidiaries will thereafter again be subject to the Suspended Covenant referenced in clause (8) of the immediately preceding paragraph under the Indenture with respect to future events, including without limitation, the proposed transaction described in this clause (b). The period beginning on the day of a Covenant Suspension Event and ending on a Reversion Date is called a "Suspension Period."

On each Reversion Date, all Indebtedness incurred, or Disqualified Stock or Preferred Stock issued, during the Suspension Period will be deemed to have been outstanding on the Issue Date, so that it is classified as permitted under clause (3) of the second paragraph of the covenant described under "—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock." Calculations made after the Reversion Date of the amount available to be made as Restricted Payments under "—Limitation on Restricted Payments" will be made as though the covenant described under "—Limitation on Restricted Payments" had been in effect prior to, but not during, the Suspension Period. No Default or Event of Default will be deemed to have occurred on the Reversion Date (or thereafter) under any Suspended Covenant solely as a result of any actions taken by the Company or its Restricted Subsidiaries, or events occurring, during the Suspension Period. On and after each Reversion Date, the Company and its Subsidiaries will be permitted to consummate the transactions contemplated by any contract entered into during the Suspension Period (and not in contemplation of the Reversion Date) so long as such contract and such consummation would have been permitted during such Suspension Period.

For purposes of the "Repurchase at the Option of Holders—Asset Sales" covenant, on the Reversion Date, the unutilized Excess Proceeds amount will be reset to zero.

For purposes of the "—Dividend and other Payment Restrictions Affecting Restricted Subsidiaries" covenant, on the Reversion Date, any contractual encumbrances or restrictions of the type specified in clause (1), (2) or (3) of that covenant entered into during the Suspension Period will be deemed to have been in effect on the Issue Date, so that they are permitted under clause (a) under "—Dividend and other Payment Restrictions Affecting Restricted Subsidiaries."

For purposes of the "—Transactions with Affiliates" covenant, any Affiliate Transaction entered into after the Reversion Date pursuant to a contract, agreement, loan, advance or guaranty with, or for the benefit of, any Affiliate of the Company entered into during the Suspension Period will be deemed to have been in effect as of the Issue Date for purposes of clause (6) under "—Transactions with Affiliates." Within 10 days following the Reversion Date any Guarantees released solely upon the related Covenant Suspension Event shall be reinstated and the Company must comply with the terms of the covenant under "—Future Subsidiary Guarantors."

There can be no assurance that the Notes will ever achieve or maintain Investment Grade Ratings.

The Issuer shall deliver to the Trustee an Officer's Certificate notifying it of the commencement or termination of any Suspension Period. The Trustee shall have no independent obligation to determine if a Suspension Period has commenced or terminated, to notify the Holders regarding the same or to determine the consequences thereof.

Limitation on Restricted Payments

The Company will not, and will not permit any of its Restricted Subsidiaries to, directly or indirectly:

(I) declare or pay any dividend or make any other payment or any distribution on account of the Company's, or any of its Restricted Subsidiaries' Equity Interests (in each case, solely in such Person's capacity as holder of such Equity Interests), including any dividend or distribution payable in connection with any merger or consolidation other than:

(a) dividends or distributions by the Company payable solely in Equity Interests (other than Disqualified Stock) of the Company or any direct or indirect parent of the Company; or

(b) dividends or distributions by a Restricted Subsidiary so long as, in the case of any dividend or distribution payable on or in respect of any class or series of securities issued by a Restricted Subsidiary other than a Wholly-Owned Subsidiary, the Company or a Restricted Subsidiary receives at least its pro rata share of such dividend or distribution in accordance with its Equity Interests in such class or series of securities;

(II) purchase, redeem, defease or otherwise acquire or retire for value any Equity Interests of the Company or any direct or indirect parent of the Company, including in connection with any merger or consolidation, in each case held by Persons other than the Company or a Restricted Subsidiary;

(III) make any principal payment on, or redeem, repurchase, defease or otherwise acquire or retire for value, in each case prior to any scheduled repayment, sinking fund payment or maturity, any Subordinated Indebtedness of the Company or a Guarantor, other than:

(a) Indebtedness permitted under clauses (7) and (8) of the covenant described under "—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock"; or

(b) the payment, redemption, repurchase, defeasance, acquisition or retirement for value of Subordinated Indebtedness purchased in anticipation of satisfying a sinking fund obligation, principal installment or final maturity, in each case due within one year of the date of such payment, redemption, repurchase, defeasance, acquisition or retirement; or

(IV) make any Restricted Investment

(all such payments and other actions set forth in clauses (I) through (IV) above being collectively referred to as "*Restricted Payments*"), unless, at the time of such Restricted Payment:

(1) no Event of Default shall have occurred and be continuing or would occur as a consequence thereof;

(2) immediately after giving effect to such transaction on a *pro forma* basis, the Company could incur $1.00 of additional Indebtedness under the provisions of the first paragraph of the covenant described under "—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock"; and

(3) such Restricted Payment, together with the aggregate amount of all other Restricted Payments made by the Company and its Restricted Subsidiaries after the Issue Date (excluding Restricted Payments made by the next succeeding paragraph other than clauses (1) and (9) thereof), is less than the sum of (without duplication):

(a) 50% of the Consolidated Net Income of the Issuer for the period (taken as one accounting period) beginning on the first day of the fiscal quarter of the Issuer during which the Issue Date occurs to the end of the Issuer's most recently ended fiscal quarter for which internal financial statements are available at the time of such Restricted Payment, or, in the case such Consolidated Net Income for such period is a deficit, minus 100% of such deficit; plus

(b) 100% of the aggregate net cash proceeds and the fair market value, as determined in good faith by the Company, of marketable securities or other property received by the Company since the Issue Date (other than net cash proceeds to the extent such net cash proceeds have been used to incur Indebtedness, Disqualified Stock or Preferred Stock pursuant to clause (12)(a) of the second paragraph of the covenant described under "—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock") from the issue or sale of:

(i) (A) Equity Interests of the Company, including Treasury Capital Stock (as defined below), but excluding cash proceeds and the fair market value, as determined in good faith by the Company, of marketable securities or other property received from the sale of:

(x) Equity Interests to any future, present or former employee, officer, director, member of management or consultant (or the estate, heirs, family members, spouse, former spouse, domestic partner or former domestic partner of any of the foregoing) of the Company, any direct or indirect parent company of the Company and the Company's Subsidiaries since the Issue Date to the extent such amounts have been applied to Restricted Payments made in accordance with clause (4) of the next succeeding paragraph; and

(y) Designated Preferred Stock; and

(B) to the extent such net cash proceeds or other property are actually contributed to the Company, Equity Interests of the Company's direct or indirect parent companies (excluding contributions of the proceeds from the sale of Designated Preferred Stock of such companies or contributions to the extent such amounts have been applied to Restricted Payments made in accordance with clause (4) of the next succeeding paragraph); or

(ii) debt of the Company or any Restricted Subsidiary that has been converted into or exchanged for Equity Interests of the Company or its direct or indirect parent companies; *provided, however*, that this clause (b) shall not include the proceeds from (W) Refunding Capital Stock (as defined below), (X) Equity Interests or convertible debt securities of the Company sold to a Restricted Subsidiary, (Y) Disqualified Stock or debt securities that have been converted into Disqualified Stock or (Z) Excluded Contributions; *plus*

(c) 100% of the aggregate amount of cash and the fair market value, as determined in good faith by the Company, of marketable securities or other property contributed to the capital of the Company following the

Issue Date other than (X) net cash proceeds to the extent such net cash proceeds have been used to incur Indebtedness or issue Disqualified Stock or Preferred Stock pursuant to clause (12)(a) of the second paragraph of the covenant described under "—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock," (Y) by a Restricted Subsidiary and (Z) from any Excluded Contributions; *plus*

(d) 100% of the aggregate amount received in cash and the fair market value, as determined in good faith by the Company, of marketable securities or other property received by the Company or a Restricted Subsidiary by means of:

(i) the sale or other disposition (other than to the Company or a Restricted Subsidiary) of Restricted Investments made by the Company or its Restricted Subsidiaries, repurchases and redemptions of such Restricted Investments from the Company or its Restricted Subsidiaries, repayments of loans or advances, releases of guarantees, which constitute Restricted Investments by the Company or its Restricted Subsidiaries, return of capital, income, profits and other amounts realized as a return or Investment from any Restricted Investment by the Company or its Restricted Subsidiaries, in each case since the Issue Date; or

(ii) the sale or other distribution (other than to the Company or a Restricted Subsidiary) of the Equity Interests of an Unrestricted Subsidiary or a distribution from an Unrestricted Subsidiary (other than in each case to the extent the Investment in such Unrestricted Subsidiary was made by the Company or a Restricted Subsidiary pursuant to clause (7) of the next succeeding paragraph or to the extent such Investment constituted a Permitted Investment) or a dividend or distribution from an Unrestricted Subsidiary since the Issue Date; *plus*

(e) in the case of the redesignation of an Unrestricted Subsidiary as a Restricted Subsidiary or the merger, amalgamation or consolidation of an Unrestricted Subsidiary into the Company or a Restricted Subsidiary or the transfer of all or substantially all of the assets of an Unrestricted Subsidiary to the Company or a Restricted Subsidiary after the Issue Date, the fair market value of the Investment of the Company or the Restricted Subsidiary in such Unrestricted Subsidiary (or the assets transferred), as determined by the Company in good faith at the time of the redesignation of such Unrestricted Subsidiary as a Restricted Subsidiary or at the time of such merger, amalgamation, consolidation or transfer of assets other than to the extent such Investment constituted a Permitted Investment; *plus*

(f) in the event the Company or any Restricted Subsidiary of the Company makes any Investment in a Person that, as a result of or in connection with such Investment, becomes a Restricted Subsidiary of the Company, an amount equal to the fair market value of the existing Investment in such Person, to the extent such existing Investment constituted a Restricted Investment or was made pursuant to this paragraph or the next succeeding paragraph (other than clause (11) of the next succeeding paragraph) after the Issue Date; *plus*

(g) $100.0 million.

The foregoing provisions will not prohibit:

(1) the payment of any dividend or distribution or the consummation of any irrevocable redemption within 60 days after the date of declaration of the dividend or other distribution or giving of the redemption notice, as the case may be, if at the date of declaration or distribution such dividend, distribution or redemption payment would have complied with the provisions of the Indenture (assuming, in the case of a redemption payment, the giving of the notice would have been deemed a Restricted Payment at such time and such deemed Restricted Payment would have been permitted at such time);

(2) (a) the redemption, repurchase, retirement or other acquisition of any Equity Interests (*"Treasury Capital Stock"*) or Subordinated Indebtedness of the Company, any direct or indirect parent of the Company or any Restricted Subsidiary in exchange for, or out of the proceeds of, the substantially concurrent sale or issuance (other than to a Restricted Subsidiary) of, Equity Interests of the Company or any direct or indirect parent company of the Company to the extent any such proceeds are contributed to the Company (in each case, other

than any Disqualified Stock) (*"Refunding Capital Stock"*) (with 120 days being deemed substantially concurrent), (b) the declaration and payment of dividends on Treasury Capital Stock out of the proceeds of the substantially concurrent sale or issuance (other than to a Restricted Subsidiary) of any Refunding Capital Stock (with 120 days being deemed substantially concurrent) and (c) if immediately prior to the retirement of Treasury Capital Stock, the declaration and payment of dividends thereon was permitted under clause (6) of this paragraph, the declaration and payment of dividends on the Refunding Capital Stock (other than Refunding Capital Stock the proceeds of which were used to redeem, repurchase, retire or otherwise acquire any Equity Interests of any direct or indirect parent company of the Issuer) in an aggregate amount per year no greater than the aggregate amount of dividends per annum that were declarable and payable on such Treasury Capital Stock immediately prior to such retirement;

(3) the principal payment on, redemption, repurchase, defeasance, exchange or other acquisition or retirement of (x) Subordinated Indebtedness of the Company or a Guarantor made by exchange for, or out of the proceeds of, the substantially concurrent sale (with 120 days being deemed substantially concurrent) of, new Indebtedness of the Company or a Guarantor, as the case may be, or (y) Disqualified Stock of the Company or a Guarantor made by exchange for, or out of the proceeds of the substantially concurrent sale (with 120 days being deemed substantially concurrent) of, Disqualified Stock of the Company or a Guarantor, that, in each case, is incurred in compliance with "—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock" so long as:

(a) the principal amount (or accreted value, if applicable) of such new Indebtedness or the liquidation preference of such new Disqualified Stock does not exceed the principal amount of (or accreted value, if applicable), *plus* any accrued and unpaid interest on, the Subordinated Indebtedness or the liquidation preference of, plus any accrued and unpaid dividends on, the Disqualified Stock being so repaid, repurchased, redeemed, defeased, exchanged, acquired or retired for value, *plus* the amount of any premium required to be paid under the terms of the instrument governing the Subordinated Indebtedness or Disqualified Stock being so repaid, repurchased, redeemed, defeased, exchanged, acquired or retired, any tender premiums, plus any defeasance costs, accrued interest and any fees and expenses (including original issue discount, upfront or similar fees) incurred in connection therewith;

(b) such new Indebtedness is subordinated to the Notes or the applicable Guarantee at least to the same extent as such Subordinated Indebtedness so repaid, repurchased, redeemed, defeased, exchanged, acquired or retired for value;

(c) such new Indebtedness or Disqualified Stock has a final scheduled maturity date equal to or later than the final scheduled maturity date of the Subordinated Indebtedness or Disqualified Stock being so repaid, repurchased, redeemed, defeased, exchanged, acquired or retired; and

(d) such new Indebtedness or Disqualified Stock has a Weighted Average Life to Maturity at the time incurred equal to or greater than the remaining Weighted Average Life to Maturity of the Subordinated Indebtedness or Disqualified Stock being so repaid, repurchased, redeemed, defeased, exchanged, acquired or retired.

(4) a Restricted Payment to pay for the repurchase, redemption, retirement or other acquisition or retirement for value of Equity Interests (other than Disqualified Stock) of the Company or any of its direct or indirect parent companies held by any future, present or former employee, officer, director, member of management, manager or consultant (or the estate, heirs, family members, spouse, former spouse, domestic partner or former domestic partner of any of the foregoing) of the Company, any of its Subsidiaries or any of its direct or indirect parent companies, pursuant to any management equity plan or stock option plan or any other management or employee benefit plan or other agreement or arrangement including any Equity Interests rolled over by current or former management of the Company, any of its Subsidiaries or any of its direct or indirect parent companies in connection with the Transactions (and including, for the avoidance of doubt, any principal and interest payable on any notes issued by the Company or any direct or indirect parent company in connection with any such repurchase, retirement or other acquisition and any tax related thereto); *provided, however*, that the aggregate Restricted Payments made under this clause (4) do not exceed $20.0 million in any calendar year (which shall increase to $30.0 million subsequent to the consummation of an underwritten public Equity Offering by the Company or any direct or indirect parent company of the Company) with unused amounts in any calendar year being carried over to succeeding calendar years; *provided further* that such amount in any calendar year may be increased by an amount not to exceed:

(a) the cash proceeds from the sale of Equity Interests (other than Disqualified Stock) of the Company and, to the extent contributed to the Company, Equity Interests of any of the Company's direct or indirect parent companies, in each case to any future, present or former employee, officer, director, member of management, manager or consultant (or the estate, heirs, family members, spouse, former spouse, domestic partner or former domestic partner of any of the foregoing) of the Company, any of its Subsidiaries or any of its direct or indirect parent companies after the Issue Date, to the extent the cash proceeds from the sale of such Equity Interests have not otherwise been applied to the payment of Restricted Payments by virtue of clause (3) of the preceding paragraph; plus, in respect of any sale of Equity Interests in connection with an exercise of stock options, an amount equal to the amount required to be withheld by the Company or any of its direct or indirect parent companies in connection with such exercise under applicable law to the extent such amount is repaid to the Company or its direct or indirect parent company, as applicable, constituted a Restricted Payment and has not otherwise been applied to the payment of Restricted Payments by virtue of clause (3) of the preceding paragraph; *plus*

(b) the cash proceeds of key man life insurance policies received by the Company or its Restricted Subsidiaries or any of its direct or indirect parent companies after the Issue Date; *plus*

(c) the amount of any cash bonuses otherwise payable to employees, officers, directors, members of management, managers or consultants of the Company, any of its Subsidiaries or any of its direct or indirect companies that are foregone in return for receipt of Equity Interests; *less*

(d) the amount of any Restricted Payments previously made with the cash proceeds described in clauses (a), (b) and (c) of this clause (4);

and *provided further* that cancellation of Indebtedness owing to the Company or any of its Restricted Subsidiaries from any future, present or former employee, officer, director, member of management, manager or consultant (or the estate, heirs, family members, spouse, former spouse, domestic partner or former domestic partner of any of the foregoing) of the Company, any of the Company direct or indirect parent companies or any of the Company's Restricted Subsidiaries in connection with a repurchase of Equity Interests of the Company or any of its direct or indirect parent companies will not be deemed to constitute a Restricted Payment for purposes of this covenant or any other provision of the Indenture;

(5) the declaration and payment of dividends or distributions to holders of any class or series of Disqualified Stock of the Company or any of its Restricted Subsidiaries or any class or series of Preferred Stock of any Restricted Subsidiary issued or incurred in accordance with the covenant described under "—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock" to the extent such dividends are included in the definition of "Fixed Charges";

(6) (a) the declaration and payment of dividends to holders of any class or series of Designated Preferred Stock (other than Disqualified Stock) issued by the Company or any of its Restricted Subsidiaries after the Issue Date;

(b) the declaration and payment of dividends or distributions to a direct or indirect parent company of the Company, the proceeds of which will be used to fund the payment of dividends to holders of any class or series of Designated Preferred Stock (other than Disqualified Stock) of such parent company issued after the Issue Date, *provided* that the amount of dividends paid pursuant to this clause (b) shall not exceed the aggregate amount of cash actually contributed to the Company from the sale of such Designated Preferred Stock; or

(c) the declaration and payment of dividends on Refunding Capital Stock that is Preferred Stock in excess of the dividends declarable and payable thereon pursuant to clause (2) of this paragraph;

provided, however, in the case of each of (a), (b) and (c) of this clause (6), that for the most recently ended four full fiscal quarters for which internal financial statements are available immediately preceding the date of issuance of such Designated Preferred Stock or the declaration of such dividends on Refunding Capital Stock that is Preferred Stock, after giving effect to such issuance or declaration on a pro forma basis, the Issuer and its Restricted Subsidiaries on a consolidated basis would have had a Fixed Charge Coverage Ratio of at least 2.00 to 1.00;

(7) Investments in Unrestricted Subsidiaries having an aggregate fair market value, taken together with all other Investments made pursuant to this clause (7) that are at the time outstanding, without giving effect to the sale of an Unrestricted Subsidiary to the extent the proceeds of such sale do not consist of, or have not been subsequently sold or transferred for, cash or marketable securities, not to exceed the sum of (a) the greater of (x) $50.0 million (with the fair market value of each Investment being measured at the time made and without giving effect to subsequent changes in value) and (y) 1.0% of Consolidated Total Assets and (b) any returns (including dividends, interest, distributions, returns of principal, profits on sale, repayments, income and similar amounts) actually received in respect of any such Investment; *provided, however*, that if any Investment pursuant to this clause (7) is made in any Person that is not the Issuer or a Restricted Subsidiary at the date of the making of such Investment and such Person becomes the Issuer or a Restricted Subsidiary after such date, such Investment shall thereafter be deemed to have been made pursuant to clause (1) of the definition of Permitted Investments and shall cease to have been made pursuant to this clause (7) for so long as such Person continues to be the Issuer or a Restricted Subsidiary;

(8) redemptions, repurchases, retirements or other acquisitions of Equity Interests deemed to occur (a) upon exercise of stock options or warrants or other securities convertible into or exchangeable for Equity Interests if such Equity Interests represent all or a portion of the exercise price of such options or warrants or other securities convertible into or exchangeable for Equity Interests and (b) in connection with the withholding portion of the Equity Interests granted or awarded to any future, present or former employee, officer, director, member of management, manager or consultant (or the estate, heirs, family members, spouse, former spouse, domestic partner or former domestic partner of any of the foregoing) of the Company or any of its Subsidiaries to pay for the taxes payable by such Persons upon such grant or award;

(9) the declaration and payment of dividends on the Company's common stock (or the payment of dividends to any direct or indirect parent entity to fund a payment of dividends on such entity's common stock), following the first public offering of the Company's common stock or the common stock of any of its direct or indirect parent companies after the Issue Date, in an amount not to exceed the greater of (a) 6% per annum of the net cash proceeds received by or contributed to the Company in or from any public offering, other than public offerings with respect to the Company's common stock registered on Form S-8 and other than any public sale constituting an Excluded Contribution and (b) an aggregate amount per annum not to exceed 5% of Market Capitalization;

(10) Restricted Payments in an amount that does not exceed the aggregate amount of Excluded Contributions made since the Issue Date;

(11) other Restricted Payments in an aggregate amount taken together with all other Restricted Payments made pursuant to this clause (11) that are at the time outstanding not to exceed the greater of (x) $160.0 million and (y) 4% of Consolidated Total Assets;

(12) distributions or payments of Receivables Fees;

(13) any Restricted Payment used to fund the Transactions (including, after the Issue Date, to satisfy any payment obligations owing under the Transaction Agreement) and the fees and expenses related thereto or owed to Affiliates (including dividends to any direct or indirect parent company to permit payment by such parent of such amount), in each case with respect to any Restricted Payment to or owed to an Affiliate, to the extent permitted by the covenant described under "—Transactions with Affiliates";

(14) the repurchase, redemption or other acquisition or retirement for value of any Subordinated Indebtedness pursuant to provisions similar to those described under the captions "Repurchase at the Option of Holders—Change of Control" and "Repurchase at the Option of Holders—Asset Sales"; *provided* that all Notes validly tendered and not validly withdrawn by Holders in connection with a Change of Control Offer or Asset Sale Offer, as applicable, have been repurchased, redeemed or acquired for value;

(15) the declaration and payment of dividends or distributions by the Company or a Restricted Subsidiary to, or the making of loans or advances to, any of their respective direct or indirect parent companies in amounts required for any direct or indirect parent companies to pay, in each case without duplication,

(a) franchise, excise and similar taxes and other fees and expenses required to maintain the corporate or other legal existence of or the qualification to do business of the Company, its Subsidiaries or any direct or indirect parent thereof;

(b) customary wages, salary, bonus, severance and other benefits payable to, and indemnitees provided on behalf of, current or former officers, directors, employees, members of management, consultants and/or independent contractors of any direct or indirect parent company of the Company and any payroll, social security or similar taxes thereof to the extent such wages, salaries, bonuses, severance, indemnification, obligations and other benefits are attributable to the ownership or operation of the Company and its Restricted Subsidiaries;

(c) interest and/or principal on Indebtedness the proceeds of which have been contributed to the Company or any Restricted Subsidiary and that has been guaranteed by, or is otherwise, considered Indebtedness of, the Company incurred in accordance with the covenant described under "—Limitation on Incurrence of Indebtedness and Issuance of Disqualified and Preferred Stock";

(d) general corporate operating, legal and overhead costs and expenses of any direct or indirect parent company of the Company to the extent such costs and expenses are attributable to the ownership or operation of the Company and its Restricted Subsidiaries;

(e) audit and other accounting and reporting expenses at such direct or indirect parent company to the extent relating to the ownership or operations of the Company and/ or its Restricted Subsidiaries;

(f) (i) fees and expenses other than to Affiliates of the Company related to any equity or debt offering, acquisition, disposition or merger of such parent company (whether or not successful) and (ii) Public Company Costs;

(g) (i) cash payments in lieu of issuing fractional shares in connection with the exercise of warrants, options or other securities convertible into or exchangeable for Equity Interests of the Company or any direct or indirect parent and (ii) consisting of payments made or expected to be made in respect of withholding or similar Taxes payable by any future, present or former officers, directors, employees, members of management, managers or consultants of the Company, any Restricted Subsidiary or any direct or indirect parent company or any of their respective immediate family members;

(h) payments permitted under clauses (3), (4), (7), (10) or (19) of the covenant described under "—Transactions with Affiliates";

(i) amounts to pay any income taxes imposed by any Governmental Authority, including any interest, additions to tax or penalties applicable thereto, due and payable by such parent company to any taxing authority and that are attributable to the income of the Company and/or its subsidiaries; *provided* that (x) the Company and its subsidiaries are members of the relevant parent company's consolidated, combined or similar group and (y) the amount of any distribution made in reliance on this clause (i) does not exceed the income tax liability that the Company and its subsidiaries would have been required to pay if they had been a standalone group (computed at the highest marginal tax rate);

(j) payments to finance any Investment permitted to be made pursuant to this covenant; *provided* that (i) such Restricted Payment shall be made within 120 days of the closing of such Investment, (ii) such parent shall, promptly following the closing thereof, cause (A) all property acquired (whether assets or Equity Interests) to be contributed to the Company or a Restricted Subsidiary or (B) the merger, consolidation or amalgamation to the extent permitted pursuant to the covenant described below under "—Merger, Consolidation or Sale of All or Substantially All Assets" of the Person formed or acquired into the Company or a Restricted Subsidiary in order to consummate such acquisition or Investment in a manner that causes such Investment to be a Permitted Investment, (iii) such direct or indirect parent company and its Affiliates (other than the Company or a Restricted Subsidiary) receives no consideration or other payment in connection with such transaction except to the extent the Company or a Restricted Subsidiary could have given such consideration or made such payment in compliance with the Indenture, (iv) any property received by the Company shall not increase amounts available for Restricted Payments pursuant to clause (c) of the preceding paragraph and (v) such Investment shall be deemed to be made by the Company or such Restricted Subsidiary pursuant to another provision of this covenant (other than pursuant to clause (10) hereof) or pursuant to the definition of "Permitted Investments";

(16) the distribution, by dividend or otherwise, or other transfer or disposition of shares of Capital Stock, of Equity Interests in, or Indebtedness owed to the Company or a Restricted Subsidiary by, Unrestricted Subsidiaries (other than Unrestricted Subsidiaries, substantially all the assets of which are cash and Cash Equivalents) or the proceeds thereof;

(17) cash payments in lieu of the issuance of fractional shares in connection with the exercise of warrants, options or other securities convertible into or exchangeable for Capital Stock of the Company, any of its Restricted Subsidiaries or any direct or indirect parent company of the Company;

(18) any Restricted Payment if immediately after giving *pro forma* effect thereto and the incurrence of any Indebtedness the net proceeds of which are used to finance such Restricted Payment, the Consolidated Total Leverage Ratio of the Company and its Restricted Subsidiaries would not have exceeded 4.75:1.00; and

(19) payments or distributions to dissenting stockholders pursuant to applicable law, pursuant to or in connection with a consolidation, merger or transfer of all or substantially all of the assets of the Company and its Restricted Subsidiaries, taken as a whole, that complies with the covenant described under "—Merger, Consolidation or Sale of All or Substantially All Assets";

provided, however, that at the time of, and after giving effect to, any Restricted Payment permitted under clauses (11), (16) and (18), no Default shall have occurred and be continuing or would occur as a consequence thereof.

In determining whether any Restricted Payment is permitted by this covenant, the Company and its Restricted Subsidiaries may allocate all or any portion of such Restricted Payment among the categories described in clauses (1) through (19) of the immediately preceding paragraph or among such categories and the types of Restricted Payments described in the first paragraph of this covenant (including categorization in whole or in part as one or more of the clauses contained in the definition of "Permitted Investments"); *provided* that, at the time of such allocation, all such Restricted Payments, or allocated portions thereof, would be permitted under the various provisions of this covenant and provided further that the Company and its Restricted Subsidiaries may reclassify all or a portion of such Restricted Payment or Permitted Investment in any manner that complies with this covenant (based on circumstances existing at the time of such reclassification), and following such reclassification such Restricted Payment or Permitted Investment shall be treated as having been made pursuant to only the clause or clauses of this covenant to which such Restricted Payment or Permitted Investment has been reclassified.

The amount of all Restricted Payments (other than cash) will be the fair market value on the date the Restricted Payment is made, or at the Issuer's election, the date a commitment is made to make such Restricted Payment, of the assets or securities proposed to be transferred or issued by the Issuer or any Restricted Subsidiary, as the case may be, pursuant to the Restricted Payment.

As of the Issue Date, all of the Company's Subsidiaries will be Restricted Subsidiaries. The Company will not permit any Unrestricted Subsidiary to become a Restricted Subsidiary except pursuant to the second to last sentence of the definition of "Unrestricted Subsidiary." For purposes of designating any Restricted Subsidiary as an Unrestricted Subsidiary, all outstanding Investments by the Company and its Restricted Subsidiaries (except to the extent repaid) in the Subsidiary so designated will be deemed to be Investments in an amount determined as set forth in the last sentence of the definition of "Investments." Such designation will be permitted only if a Restricted Payment or Permitted Investment in such amount would be permitted at such time, whether pursuant to the first paragraph of this section or clause (7), (10), (11) or (18) of the second paragraph of this section or pursuant to the definition of Permitted Investment and if such Subsidiary otherwise meets the definition of an Unrestricted Subsidiary. Unrestricted Subsidiaries will not be subject to any of the restrictive covenants set forth in the Indenture.

For the avoidance of doubt, this covenant shall not restrict the making of any "AHYDO catch up payment" with respect to, and required by the terms of, any Indebtedness of the Company or any of its Restricted Subsidiaries permitted to be incurred under the terms of the Indenture.

Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock

The Company will not, and will not permit any of its Restricted Subsidiaries to, directly or indirectly, create, incur, issue, assume, guarantee or otherwise become directly or indirectly liable, contingently or otherwise (collectively, "*incur*" and collectively, an "*incurrence*") with respect to any Indebtedness (including Acquired Indebtedness) and the Company will not issue any shares of Disqualified Stock and will not permit any Restricted Subsidiary to issue any shares of Disqualified Stock or Preferred Stock; *provided, however*, that the Company may incur Indebtedness (including Acquired Indebtedness) or issue shares of Disqualified Stock, and any of its Restricted Subsidiaries may incur Indebtedness (including Acquired Indebtedness), issue shares of Disqualified Stock and issue shares of Preferred Stock, if the Fixed Charge Coverage Ratio for the Issuer and its Restricted Subsidiaries' most recently ended four fiscal quarters for which internal financial statements are available immediately preceding the date on which such additional Indebtedness is incurred or such Disqualified Stock or Preferred Stock is issued would have been at least 2.00 to 1.00, determined on a *pro forma* basis (including a *pro forma* application of the net proceeds therefrom), as if the additional Indebtedness had been incurred, or the Disqualified Stock or Preferred Stock had been issued, as the case may be, and the application of the proceeds therefrom had occurred at the beginning of such four-quarter period; *provided* that the amount of Indebtedness (including Acquired Indebtedness), Disqualified Stock and Preferred Stock that may be incurred or issued, as applicable, pursuant to the foregoing by Restricted Subsidiaries that are not Guarantors under this paragraph shall not exceed at any one time outstanding, in the aggregate, (together with all Indebtedness incurred under clause (18) below by Restricted Subsidiaries that are not Guarantors) the greater of (x) $175.0 million and (y) 4.5% of Consolidated Total Assets at any one time outstanding.

The foregoing limitations will not apply to:

(1) Indebtedness incurred pursuant to Credit Facilities by the Company or any Restricted Subsidiary; *provided* that immediately after giving effect to any such incurrence, the aggregate principal amount of all Indebtedness incurred under this clause (1) and then outstanding does not exceed the sum of (A) the greater of $250.0 million and the Borrowing Base as of the date of such incurrence plus (B) the sum of (i) $1,400.0 million and (ii) an unlimited additional amount of Indebtedness after all amounts have been incurred under clauses (A) and (B)(i) so long as the Consolidated First Lien Secured Debt Ratio for the Company's most recently ended four consecutive full fiscal quarters for which internal financial statements are available immediately preceding the incurrence or issuance of such Indebtedness, after giving pro forma effect to such incurrence or issuance and the application of the proceeds thereof, is either (x) less than or equal to 4.25 to 1.00 or, to the extent such Indebtedness constitutes Junior Lien Obligations, so long as the Consolidated Secured Debt Ratio is less than or equal to 4.70 to 1.00 or (y) in each case, on a pro forma basis after giving effect to such incurrence and related transaction, the Consolidated First Lien Secured Debt Ratio or Consolidated Secured Debt Ratio, as applicable does not increase as a result of such transaction provided that in the case of clause (y) such Indebtedness was incurred for the purpose of funding an acquisition, *provided* that any Indebtedness incurred under this clause (1) shall be deemed to be Pari Passu Obligations or Junior Lien Obligations, as applicable, whether or not so secured, solely for purposes of calculating the Consolidated First Lien Secured Debt Ratio or Consolidated Secured Debt Ratio, as applicable, for this clause (1);

(2) the incurrence by the Company and any Guarantor of Indebtedness represented by the Notes (including any Guarantee) (other than any Additional Notes);

(3) Indebtedness of the Company and its Restricted Subsidiaries in existence, or pursuant to commitments existing, on the Issue Date, including the Unsecured Notes and the Existing Senior Notes, but excluding Indebtedness described in clauses (1) and (2);

(4) (i) Indebtedness (including Capitalized Lease Obligations, mortgage financings and purchase money obligations) incurred or Disqualified Stock issued by the Company or any Restricted Subsidiary and Preferred Stock issued by any Restricted Subsidiary, to finance the purchase, lease, replacement or improvement of property (real or personal) or equipment, whether through the direct purchase of assets or the Capital Stock of any Person owning such assets and (ii) any Indebtedness incurred or Disqualified Stock or Preferred Stock issued to refund, refinance or replace any other Indebtedness incurred or Disqualified Stock or Preferred Stock issued pursuant to this clause (4); provided that the aggregate amount of Indebtedness incurred and Disqualified Stock and Preferred Stock issued pursuant to clauses (i) and (ii) of this clause (4) does not exceed the greater of (x) $200.0 million and (y) 5.0% of Consolidated Total Assets at any one time outstanding;

(5) Indebtedness incurred by the Company or any of its Restricted Subsidiaries constituting reimbursement obligations with respect to letters of credit, bank guarantees or similar instruments supporting trade payables, bankers acceptances, warehouse receipts or similar facilities issued in the ordinary course of business, including, without limitation, letters of credit in respect of workers' compensation claims, health, disability or other employee benefits or property, casualty or liability insurance or self-insurance, unemployment insurance (including premiums related thereto) or other types of social security, pension obligations, vacation pay, health, disability or other employee benefits;

(6) Indebtedness arising from agreements of the Company or its Restricted Subsidiaries providing for indemnification, adjustment of purchase price, earnouts or similar obligations, in each case, incurred or assumed in connection with an acquisition or disposition of any business, assets or a Subsidiary, other than guarantees of Indebtedness incurred by any Person acquiring all or any portion of such business, assets or a Subsidiary for the purpose of financing such acquisition and Indebtedness arising from guaranties, letters of credit, bank guaranties, surety bonds, performance bonds or similar instruments securing the performance of the Company or any Restricted Subsidiary pursuant to any such agreement;

(7) Indebtedness of the Company to a Restricted Subsidiary; *provided* that any such Indebtedness owing to a Restricted Subsidiary that is not a Guarantor is expressly subordinated in right of payment to the Notes within 90 days of the incurrence of such Indebtedness; *provided further* that any subsequent issuance or transfer of any Capital Stock or any other event which results in any Restricted Subsidiary ceasing to be a Restricted Subsidiary or any other subsequent transfer of any such Indebtedness (except to the Company or another Restricted Subsidiary or any pledge of such Indebtedness constituting a Permitted Lien) shall be deemed, in each case, to be an incurrence of such Indebtedness not permitted by this clause (7);

(8) Indebtedness of a Restricted Subsidiary to the Company or another Restricted Subsidiary; *provided* that if a Guarantor incurs such Indebtedness to a Restricted Subsidiary that is not a Guarantor, such Indebtedness is expressly subordinated in right of payment to the Guarantee of the Notes of such Guarantor within 90 days of the incurrence of such Indebtedness; provided further that any subsequent issuance or transfer of any Capital Stock or any other event which results in any such Restricted Subsidiary ceasing to be a Restricted Subsidiary or any subsequent transfer of any such Indebtedness (except to the Company or another Restricted Subsidiary or any pledge of such Indebtedness constituting a Permitted Lien) shall be deemed, in each case, to be an incurrence of such Indebtedness not permitted by this clause (8);

(9) shares of Preferred Stock or Disqualified Stock of a Restricted Subsidiary issued to the Company or another Restricted Subsidiary, *provided* that any subsequent issuance or transfer of any Capital Stock or any other event which results in any such Restricted Subsidiary ceasing to be a Restricted Subsidiary or any other subsequent transfer of any such shares of Preferred Stock or Disqualified Stock (except to the Company or another of its Restricted Subsidiaries) shall be deemed in each case to be an issuance of such shares of Preferred Stock or Disqualified Stock not permitted by this clause (9);

(10) (x) Hedging Obligations (excluding Hedging Obligations entered into for speculative purposes) for the purpose of limiting interest rate risk, exchange rate risk or commodity pricing risk, and (y) Indebtedness in respect of any Bank Products or Cash Management Services provided by any agent or lender party to a Senior Credit Facility or any affiliate of such agent or lender (or any Person that was an agent or lender or an affiliate of an agent or lender at the time the applicable agreement pursuant to which such Bank Products or Cash Management Services are provided was entered into);

(11) obligations (including reimbursement obligations with respect to guaranties, letters of credit, bank guarantees or other similar instruments) in respect of tenders, statutory obligations, leases, governmental contracts, trade contracts, stay, performance, bid, customs, appeal and surety bonds and performance and/or return of money bonds and completion guarantees or other obligations of a like nature provided by the Company or any of its Restricted Subsidiaries in the ordinary course of business or consistent with past practice or industry practices;

(12) (a) Indebtedness or Disqualified Stock of the Company and Indebtedness, Disqualified Stock or Preferred Stock of any Restricted Subsidiary equal to 100.0% of the net cash proceeds received by the Company since immediately after the Issue Date from the issue or sale of Equity Interests of the Company or cash contributed to the capital of the Company (in each case, other than proceeds of Disqualified Stock or sales of Equity Interests to the Company or any of its Subsidiaries) as determined in accordance with clauses (3)(b) and (3)(c) of the first paragraph of "—Limitation on Restricted Payments" to the extent such net cash proceeds or cash have not been applied pursuant to such clauses to make Restricted Payments or to make other Investments, payments or exchanges pursuant to the second paragraph of "—Limitation on Restricted Payments" or to make Permitted Investments (other than Permitted Investments specified in clauses (1) and (3) of the definition thereof) and (b) Indebtedness or Disqualified Stock of the Company and Indebtedness, Disqualified Stock or Preferred Stock of any Restricted Subsidiary not otherwise permitted hereunder in an aggregate principal amount or liquidation preference, which when aggregated with the principal amount and liquidation preference of all other Indebtedness, Disqualified Stock and Preferred Stock then outstanding and incurred or issued, as applicable, pursuant to this clause (12)(b), does not at any one time outstanding exceed the greater of (x) $225.0 million and

(y) 5.5% of Consolidated Total Assets (it being understood that any Indebtedness incurred or Disqualified Stock or Preferred Stock issued pursuant to this clause (12)(b) shall cease to be deemed incurred, issued or outstanding for purposes of this clause (12)(b) but shall be deemed incurred or issued for the purposes of the first paragraph of this covenant from and after the first date on which the Company or such Restricted Subsidiary could have incurred such Indebtedness or issued such Disqualified Stock or Preferred Stock under the first paragraph of this covenant without reliance on this clause (12)(b));

(13) the incurrence by the Company or any Restricted Subsidiary of Indebtedness or issuance of Disqualified Stock or the issuance by any Restricted Subsidiary of Preferred Stock which serves to extend, replace, refund, refinance, renew or defease any Indebtedness incurred (including any existing commitments unutilized thereunder) or Disqualified Stock or Preferred Stock issued as permitted under the first paragraph of this covenant and clauses (2), (3) and (12)(a) above, this clause (13) and clause (14) below or any Indebtedness incurred or Disqualified Stock or Preferred Stock issued to so extend, replace, refund, refinance or renew such Indebtedness, Disqualified Stock or Preferred Stock including additional Indebtedness incurred or Disqualified Stock or Preferred Stock issued to pay accrued interest, premiums (including tender premiums), defeasance costs and fees and expenses (including original issue discount, upfront fees or similar fees) in connection therewith (the "*Refinancing Indebtedness*") prior to its respective maturity; *provided*, *however*, that such Refinancing Indebtedness:

(a) has a Weighted Average Life to Maturity at the time such Refinancing Indebtedness is incurred or issued which is not less than the remaining Weighted Average Life to Maturity of the Indebtedness, Disqualified Stock or Preferred Stock being extended, replaced, refunded, refinanced, renewed or defeased (except by virtue of prepayment of such Indebtedness),

(b) to the extent such Refinancing Indebtedness extends, replaces, refunds, refinances, renews or defeases (i) Indebtedness subordinated to or *pari passu* with the Notes or any Guarantee thereof, such Refinancing Indebtedness is subordinated to or *pari passu* with the Notes or the Guarantee at least to the same extent as the Indebtedness being extended, replaced, refunded, refinanced, renewed or defeased or (ii) Disqualified Stock or Preferred Stock, such Refinancing Indebtedness must be Disqualified Stock or Preferred Stock, respectively,

(c) shall not include:

(i) Indebtedness, Disqualified Stock or Preferred Stock of a Subsidiary of the Company that is not a Guarantor that refinances Indebtedness, Disqualified Stock or Preferred Stock of the Company;

(ii) Indebtedness, Disqualified Stock or Preferred Stock of a Subsidiary of the Company that is not a Guarantor that refinances Indebtedness, Disqualified Stock or Preferred Stock of a Guarantor; or

(iii) Indebtedness, Disqualified Stock or Preferred Stock of the Company or a Restricted Subsidiary that refinances Indebtedness, Disqualified Stock or Preferred Stock of an Unrestricted Subsidiary; and

(d) to the extent such Refinancing Indebtedness is secured, the Liens securing such Refinancing Indebtedness have a Lien priority equal to or junior to the Liens securing the Indebtedness being extended, replaced, refunded, refinanced, renewed or defeased;

and *provided further* that subclause (a) of this clause (13) will not apply to any extension, replacement, refunding, refinancing, renewal or defeasance of any Indebtedness outstanding under a Credit Facility;

(14) (x) Indebtedness or Disqualified Stock of the Company or Indebtedness, Disqualified Stock or Preferred Stock of a Restricted Subsidiary incurred or issued to finance an acquisition, merger, consolidation or amalgamation (or other purchase of assets) or (y) Indebtedness, Disqualified Stock or Preferred Stock of Persons that are acquired by the Company or any Restricted Subsidiary or merged into or amalgamated or consolidated with or into the Company or a Restricted Subsidiary in accordance with the terms of the Indenture or that is

assumed by the Company or any Restricted Subsidiary in connection with such acquisition, which with respect to this clause (y) is not incurred by such Persons in connection with, or in anticipation of, such acquisition, merger, amalgamation or consolidation; *provided* that such Indebtedness is in an aggregate amount not to exceed (i) the greater of (x) $50.0 million and (y) 1.5% of Consolidated Total Assets at any time outstanding plus (ii) unlimited additional Indebtedness if after giving effect to such acquisition, merger, amalgamation or consolidation, either

(a) the Company would be permitted to incur at least $1.00 of additional Indebtedness pursuant to the Fixed Charge Coverage Ratio test set forth in the first paragraph of this covenant, or

(b) the Fixed Charge Coverage Ratio of the Issuer and its Restricted Subsidiaries is equal to or greater than immediately prior to such acquisition, merger, amalgamation or consolidation

(15) Indebtedness (i) arising from the honoring by a bank or other financial institution of a check, draft or similar instrument drawn against insufficient funds in the ordinary course of business and (ii) Indebtedness in respect of any commercial credit cards, stored value cards, purchasing cards, treasury management, check drawing and automated payment services (including depository, overdraft, controlled disbursement, ACH transactions, return items, interstate depository network services, Society for Worldwide Interbank Financial Telecommunication transfers, cash pooling and operational foreign exchange management), dealer incentive, supplier finance or similar programs, current account facilities, employee credit card programs, overdraft facilities, foreign exchange facilities, payment facilities and, in each case, similar arrangements and cash management arrangements entered into in the ordinary course of business;

(16) Indebtedness of the Company or any of its Restricted Subsidiaries supported by a letter of credit or bank guarantee issued pursuant to a Credit Facility, in a principal amount not in excess of the stated amount of such letter of credit or bank guarantee;

(17) (a) any guarantee by the Company or a Restricted Subsidiary of Indebtedness or other obligations of any Restricted Subsidiary so long as the incurrence of such Indebtedness incurred by such Restricted Subsidiary is permitted under the terms of the Indenture, or

(b) any guarantee by a Restricted Subsidiary of Indebtedness of the Company provided that such guarantee is incurred in accordance with the covenant described below under "—Future Subsidiary Guarantors", or

(c) any co-issuance by the Company or any Restricted Subsidiary of Indebtedness or other obligations of the Company or any Restricted Subsidiary so long as the incurrence of such Indebtedness incurred by the Company or such Restricted Subsidiary is permitted under the terms of the Indenture;

(18) Indebtedness of non-Guarantor Subsidiaries of the Company incurred not to exceed, together with any other Indebtedness incurred under this clause (18) at any one time outstanding, (together with all indebtedness incurred under the first paragraph of this section by Restricted Subsidiaries that are not Guarantors) the greater of (x) $175.0 million and (y) 4.5% of Consolidated Total Assets (it being understood that any Indebtedness incurred pursuant to this clause (18) shall cease to be deemed incurred or outstanding for purposes of this clause (18) but shall be deemed incurred for the purposes of the first paragraph of this covenant from and after the first date on which the applicable non-Guarantor Subsidiary could have incurred such Indebtedness under the first paragraph of this covenant without reliance on this clause (18);

(19) Indebtedness of the Company or any of its Restricted Subsidiaries consisting of (i) the financing of insurance premiums, (ii) take-or-pay obligations contained in supply arrangements, in each case incurred in the ordinary course of business and/or (iii) obligations to reacquire assets or inventory in connection with customer financing arrangements in the ordinary course of business;

(20) Indebtedness consisting of Indebtedness issued by the Company or any of its Restricted Subsidiaries to any stockholders of any direct or indirect parent company or any future, present or former employee, officer,

director, member of management, consultant or independent contractor (or the estate, heirs, family members, spouse, former spouse, domestic partner or former domestic partner of any of the foregoing), or any direct or indirect parent thereof, in each case to finance the purchase or redemption of Equity Interests of the Company, a Restricted Subsidiary or any of their direct or indirect parent companies to the extent described in clause (4) of the second paragraph of the covenant described under "—Limitation on Restricted Payments";

(21) (a) Indebtedness incurred by a Receivables Subsidiary in a Receivables Facility that is not recourse to the Company or any Restricted Subsidiary other than the Receivables Subsidiary (except for Securitization Undertakings) and (b) to the extent constituting Indebtedness, obligations of the Company or a Restricted Subsidiary as seller or servicer under a Receivables Facility and any guarantee by the Company of such Indebtedness;

(22) Indebtedness of the Company or any Restricted Subsidiary as an account party in respect of trade letters of credit issued in the ordinary course of business;

(23) Indebtedness consisting of obligations owing under dealer incentive, supply, license or similar agreements entered into in the ordinary course of business;

(24) Indebtedness representing deferred compensation to directors, officers, employees, members of management, managers or consultants of the Company or any of its Restricted Subsidiaries or any direct or indirect parent company incurred in the ordinary course of business and deferred compensation or other similar arrangements in connection with the Transactions or in connection with any Investments or any Restricted Payments permitted pursuant to the covenant described under "—Limitation on Restricted Payments";

(25) Indebtedness in an aggregate principal or face amount at any time outstanding not to exceed $30.0 million in respect of letters of credit, bank guaranties, surety bonds, performance bonds and similar instruments issued for general corporate purposes and denominated in currencies other than dollars, euros or pounds sterling;

(26) Indebtedness arising in respect of Sale and Lease-Back Transactions not to exceed the greater of $120.0 million and 3% of Consolidated Total Assets;

(27) Indebtedness consisting of guarantees of Indebtedness incurred by joint ventures not to exceed the greater of $40.0 million and 1% of Consolidated Total Assets;

(28) Indebtedness in respect of the Specified Property Financing; and

(29) Indebtedness of the Company and/or any Restricted Subsidiary incurred in connection with (a) a Specified Lease Transaction or (b) an IRB Transaction.

For purposes of determining compliance with this covenant, in the event that an item of Indebtedness, Disqualified Stock or Preferred Stock (or any portion thereof) meets the criteria of more than one of the categories of permitted Indebtedness, Disqualified Stock or Preferred Stock described in clauses (1) through (29) above or is entitled to be incurred pursuant to the first paragraph of this covenant, the Company, in its sole discretion, will classify or reclassify, or later divide, classify or reclassify, such item of Indebtedness, Disqualified Stock or Preferred Stock (or any portion thereof) in any manner that complies with this covenant; *provided* that all Indebtedness outstanding under the Senior Credit Facilities on the Issue Date shall be treated as incurred on the Issue Date under clause (1) of the preceding paragraph.

Accrual of interest or dividends, the accretion of accreted value, the accretion or amortization of original issue discount, and the payment of interest or dividends in the form of additional Indebtedness, Disqualified Stock or Preferred Stock, as the case may be, of the same class, accretion or amortization of original issue discount or liquidation preference and increases in the amount of Indebtedness outstanding solely as a result of fluctuations in the exchange rate of currencies will not be deemed to be an incurrence of Indebtedness or an issuance of Disqualified Stock or Preferred Stock for purposes of this covenant. Guarantees of, or obligations in respect of letters of credit relating to, Indebtedness which is otherwise included in the determination of a particular amount of Indebtedness shall not be included in the determination of such amount of Indebtedness; *provided* that the incurrence of the Indebtedness represented by such guarantee or letter of credit, as the case may be, was in compliance with this covenant.

For purposes of determining compliance with any U.S. dollar-denominated restriction on the incurrence of Indebtedness, the U.S. dollar-equivalent principal amount of Indebtedness denominated in a foreign currency shall be calculated based on the relevant currency exchange rate in effect on the date such Indebtedness was incurred, in the case of term debt, or first committed or first incurred (whichever yields the lower U.S. dollar equivalent), in the case of revolving credit debt; *provided* that if such Indebtedness is incurred to refinance other Indebtedness denominated in a foreign currency, and such refinancing would cause the applicable U.S. dollar-denominated restriction to be exceeded if calculated at the relevant currency exchange rate in effect on the date of such refinancing, such U.S. dollar-denominated restriction shall be deemed not to have been exceeded so long as the principal amount of such refinancing Indebtedness (plus premium (including tender premiums), fees, defeasance costs, accrued interest and expenses including original issue discount, upfront fees or similar fees) does not exceed the principal amount of such Indebtedness being refinanced.

The principal amount of any Indebtedness incurred to refinance other Indebtedness, if incurred in a different currency from the Indebtedness being refinanced, shall be calculated based on the currency exchange rate applicable to the currencies in which such respective Indebtedness is denominated that is in effect on the date of such refinancing.

In the event that the Company or a Restricted Subsidiary enters into or increases commitments under a revolving credit facility, the Fixed Charge Coverage Ratio, the Consolidated Secured Debt Ratio or the Consolidated Total Leverage Ratio, as applicable, for borrowings and reborrowings thereunder (and including issuance and creation of letters of credit and bankers' acceptances thereunder) will, at the Company's option as elected on the date the Company or a Restricted Subsidiary, as the case may be, enters into or increases such commitments, either (a) be determined on the date of such revolving credit facility or such increase in commitments (assuming that the full amount thereof has been borrowed as of such date), and, if such Fixed Charge Coverage Ratio, the Consolidated Secured Debt Ratio or the Consolidated Total Leverage Ratio, as applicable, test is satisfied with respect thereto at such time, any borrowing or reborrowing thereunder (and the issuance and creation of letters of credit and bankers' acceptances thereunder) will be permitted under this covenant irrespective of the Fixed Charge Coverage Ratio, the Consolidated Secured Debt Ratio or the Consolidated Total Leverage Ratio, as applicable, at the time of any borrowing or reborrowing (or issuance or creation of letters of credit or bankers' acceptances thereunder) (the committed, but undrawn amount permitted to be borrowed or reborrowed (and the issuance and creation of letters of credit and bankers' acceptances) on a date pursuant to the operation of this clause (a) shall be the "Reserved Indebtedness Amount" as of such date for purposes of the Fixed Charge Coverage Ratio, the Consolidated Secured Debt Ratio or the Consolidated Total Leverage Ratio, as applicable) or (b) be determined on the date such amount is borrowed pursuant to any such facility or increased commitment.

The Indenture will provide that the Company will not, and will not permit any Subsidiary Guarantor to, directly or indirectly, incur any Indebtedness (including Acquired Indebtedness) that is contractually subordinated or junior in right of payment to any Indebtedness of the Company or such Subsidiary Guarantor, as the case may be, unless such Indebtedness is expressly subordinated in right of payment to the Notes or such Subsidiary Guarantor's Guarantee within 90 days of the incurrence of such Indebtedness to the extent and in the same manner as such Indebtedness is subordinated to other Indebtedness of the Company or such Subsidiary Guarantor, as the case may be.

The Indenture will not treat (1) unsecured Indebtedness as subordinated or junior to Secured Indebtedness merely because it is unsecured or (2) senior indebtedness as subordinated or junior to any other senior indebtedness merely because it has a junior priority with respect to the same collateral.

Liens

The Company will not, and will not permit any Subsidiary Guarantor to, directly or indirectly, create, incur, assume or suffer to exist any Lien (except Permitted Liens) that secures Obligations under any Indebtedness or any related guarantee, on any asset or property of the Company or any Subsidiary Guarantor, or any income or profits therefrom, or assign or convey any right to receive income therefrom.

The expansion of Liens by virtue of accrual of interest, the accretion of accreted value, the payment of interest or dividends in the form of additional Indebtedness, amortization of original issue discount and increases in the amount of Indebtedness outstanding solely as a result of fluctuations in the exchange rate of currencies or increases in the value of property securing Indebtedness will not be deemed to be an incurrence of Liens for purposes of this covenant.

Merger, Consolidation or Sale of All or Substantially All Assets

The Company may not consolidate or merge with or into or wind up into (whether or not the Company is the surviving corporation), or sell, assign, transfer, lease, convey or otherwise dispose of all or substantially all of its properties or assets on a consolidated basis, in one or more related transactions, to any Person unless:

(1) the Company is the surviving Person or the Person formed by or surviving any such consolidation or merger (if other than the Company) or to which such sale, assignment, transfer, lease, conveyance or other disposition will have been made is a corporation, partnership, limited liability company or trust organized or existing under the laws of the United States, any state thereof or the District of Columbia (the Company or such Person, as the case may be, being herein called the "*Successor Company*");

(2) the Successor Company, if other than the Company, expressly assumes all the obligations of the Company under the Indenture, the Notes and the Security Documents pursuant to a supplemental indenture or other document or instrument;

(3) immediately after such transaction, no Default shall have occurred and be continuing;

(4) immediately after giving *pro forma* effect to such transaction and any related financing transactions, as if such transactions had occurred at the beginning of the applicable four-quarter period, either

(a) the Successor Company would be permitted to incur at least $1.00 of additional Indebtedness pursuant to the Fixed Charge Coverage Ratio test set forth in the first paragraph of the covenant described under "—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock," or

(b) the Fixed Charge Coverage Ratio for the Successor Company and its Restricted Subsidiaries would be equal to or greater than the Fixed Charge Coverage Ratio for the Issuer and its Restricted Subsidiaries immediately prior to such transaction;

(5) each Guarantor, unless it is the other party to the transactions described above, in which case clause (1)(b) of the second succeeding paragraph shall apply, shall have by supplemental indenture and other documents or instruments confirmed that its Guarantee shall apply to such Person's obligations under the Indenture, the Notes and the Security Documents; and

(6) the Successor Company shall have delivered to the Trustee an Officer's Certificate and an Opinion of Counsel, each stating that such consolidation, merger or transfer and such supplemental indentures, if any, comply with the Indenture; *provided* that in giving such Opinion of Counsel, such counsel may rely on an Officer's Certificate as to compliance with the foregoing clauses (3) and (4) and as to any other matters of fact.

The Successor Company (if other than the Company) will succeed to, and be substituted for the Company, as the case may be, under the Indenture and the Notes and in such event the Company will automatically be released and discharged from its obligation under the Indenture and the Notes.

Notwithstanding the foregoing clauses (3) and (4) (which do not apply to the following transactions),

(1) any Restricted Subsidiary may consolidate with or merge with or into or wind up into or sell, assign, transfer, lease, convey or otherwise dispose of all or part of its properties and assets to the Company or any other Restricted Subsidiary;

(2) the Company may consolidate with or merge with or into or wind up into an Affiliate of the Company solely for the purpose of reincorporating the Company in a state of the United States, the District of Columbia or any territory thereof so long as the amount of Indebtedness of the Company and its Restricted Subsidiaries is not increased thereby; and

(3) the Company or any of its Subsidiaries may be converted into, or reorganized or reconstituted as a limited liability company, limited partnership or corporation in a state of the United States, the District of Columbia or any territory thereof.

Subject to certain limitations described in the Indenture governing the release of a Guarantee upon the sale, disposition or transfer of a Subsidiary Guarantor, no Subsidiary Guarantor will, and the Company will not permit any Subsidiary Guarantor to, consolidate or merge with or into or wind up into (whether or not the Company or a Subsidiary Guarantor is the surviving corporation), or sell, assign, transfer, lease, convey or otherwise dispose of all or substantially all of its properties or assets, in one or more related transactions, to any Person (other than any such sale, assignment, transfer, lease, conveyance or disposition in connection with the Transactions described in this offering circular) unless:

(1) (a) such Subsidiary Guarantor is the surviving Person or the Person formed by or surviving any such consolidation or merger (if other than such Subsidiary Guarantor) or to which such sale, assignment, transfer, lease, conveyance or other disposition will have been made is a corporation, partnership or limited liability company organized or existing under the laws of the jurisdiction of organization of such Subsidiary Guarantor, as the case may be, or the laws of under the laws of the United States, any state thereof, the District of Columbia or any territory thereof (such Subsidiary Guarantor or such Person, as the case may be, being herein called the "*Successor Person*");

(b) the Successor Person, if other than such Subsidiary Guarantor, expressly assumes all the obligations of such Subsidiary Guarantor under the Indenture and such Subsidiary Guarantor's related Guarantee and the Security Documents pursuant to supplemental indentures or other documents or instruments;

(c) immediately after such transaction, no Default exists; and

(d) the Successor Person shall have delivered to the Trustee an Officer's Certificate and an Opinion of Counsel, each stating that such consolidation, merger or transfer and such supplemental indentures, if any, comply with the Indenture; provided that in giving such Opinion of Counsel, such counsel may rely on an Officer's Certificate or as to compliance with the foregoing clause (c); or

(2) the transaction is made in compliance with clauses (1) and (2) of the first paragraph of the covenant described under "Repurchase at the Option of Holders—Asset Sales."

Subject to certain limitations described in the Indenture, the Successor Person (if other than such Subsidiary Guarantor) will succeed to, and be substituted for, such Subsidiary Guarantor under the Indenture, such Subsidiary Guarantor's Guarantee and the Security Documents, and such Subsidiary Guarantor will automatically be released and discharged from its obligations under the Indenture and such Subsidiary

Guarantor's Guarantee. Notwithstanding the foregoing, (1) any Subsidiary Guarantor may consolidate with or merge with or into or wind up into or sell, assign, transfer, lease, convey or otherwise dispose of all or part of its properties and assets to another Subsidiary Guarantor or to the Company, (2) a Subsidiary Guarantor may consolidate or merge with or into or wind up or convert into an Affiliate incorporated solely for the purpose of reincorporating such Subsidiary Guarantor in another state of the United States or the District of Columbia so long as the amount of Indebtedness of the Subsidiary Guarantor is not increased thereby, or (3) a Subsidiary Guarantor may convert into a Person organized or existing under the laws of a jurisdiction in the United States.

Clauses (3) and (4) of the first paragraph of this "—Merger, Consolidation and Sale of All or Substantially All Assets" covenant will not apply to a sale, assignment, transfer, conveyance or other disposition of assets between or among the Company and the Restricted Subsidiaries.

Although there is a limited body of case law interpreting the phrase "substantially all" under New York law, which governs the Indenture, there is no precise established definition of the phrase under applicable law. Accordingly, in certain circumstances there may be a degree of uncertainty as to whether a particular transaction would involve "all or substantially all" of the property or assets of a Person.

Transactions with Affiliates

The Company will not, and will not permit any of its Restricted Subsidiaries to, make any payment to, or sell, lease, transfer or otherwise dispose of any of its properties or assets to, or purchase any property or assets from, or enter into or make or amend any transaction, contract, agreement, understanding, loan, advance or guarantee with, or for the benefit of, any Affiliate of the Company (each of the foregoing, an "*Affiliate Transaction*") involving aggregate payments or consideration in excess of $15.0 million, unless:

(1) such Affiliate Transaction is on terms, taken as a whole, that are not materially less favorable to the Company or its relevant Restricted Subsidiary than those that would have been obtained in a comparable transaction by the Company or such Restricted Subsidiary with an unrelated Person on an arm's-length basis , or if in the good faith judgment of the board of directors, no comparable transaction is available with which to compare the Affiliate Transaction, such Affiliate Transaction is otherwise fair to the Company or such Restricted Subsidiary from a financial point of view; and

(2) the Company delivers to the Trustee with respect to any Affiliate Transaction or series of related Affiliate Transactions involving aggregate payments or consideration in excess of $30.0 million, a resolution adopted by the majority of the board of directors of the Company approving such Affiliate Transaction and set forth in an Officer's Certificate certifying that such Affiliate Transaction complies with clause (1) above.

The foregoing provisions will not apply to the following:

(1) transactions between or among the Company or any of its Restricted Subsidiaries, or an entity that becomes a Restricted Subsidiary as a result of such transaction, and any merger, consolidation or amalgamation of the Company and any direct or indirect parent of the Company; provided that such parent shall have no material liabilities and no material assets other than cash, Cash Equivalents and Capital Stock of the Company (or a parent company thereof) and such merger, consolidation or amalgamation is otherwise in compliance with the terms of the Indenture and effected for a *bona fide* business purpose;

(2) Restricted Payments permitted by the provisions of the Indenture described above under the covenant "—Limitation on Restricted Payments" and Investments constituting Permitted Investments;

(3) (i) the payment of management, consulting, monitoring, transaction, oversight, advisory, termination and similar fees and related indemnities and expenses pursuant to the Sponsor Management Agreements as in effect on the Issue Date, and any transaction, agreement or arrangement described in this offering circular and, in each

case, any amendment thereto or replacement thereof so long as any such amendment or replacement is not disadvantageous in any material respect, in the good faith judgment of the Company, to the Holders when taken as a whole as compared to the Sponsor Management Agreements in effect on the Issue Date (it being understood that any amendment thereto or replacement thereof to increase any fees or other compensation payable or implement new fees or compensation payable pursuant to such Sponsor Management Agreements would be deemed to be materially disadvantageous to the Holders) and (ii) the payment of all indemnities and expenses owed to any Investors and each of their respective directors, officers, members of management, managers, employees and consultants, in each case of clauses (i) and (ii) whether currently due or paid in respect of accruals from prior periods;

(4) the payment of customary fees, reasonable out of pocket costs to and reimbursement of expenses and compensation paid to, and indemnities provided on behalf of or for the benefit of, future, present or former employees, officers, members of the board of directors (or similar governing body), members of management, managers, consultants or independent contractors (or the estate, heirs, family members, spouse, former spouse, domestic partner or former domestic partner of any of the foregoing) of the Company, any of its direct or indirect parent companies or any of its subsidiaries;

(5) transactions in which the Company or any of its Restricted Subsidiaries, as the case may be, delivers to the Trustee a letter from an Independent Financial Advisor stating that such transaction is fair to the Company or such Restricted Subsidiary from a financial point of view or stating that the terms are not materially less favorable to the Company or its relevant Restricted Subsidiary than those that would have been obtained in a comparable transaction by the Company or such Restricted Subsidiary with an unrelated Person on an arm's-length basis;

(6) any agreement as in effect as of the Issue Date, or any amendment, modification or extension thereof (so long as any such amendment is not disadvantageous in any material respect to the Holders when taken as a whole as compared to the applicable agreement as in effect on the Issue Date as determined in good faith by the Company) or any transaction contemplated thereby;

(7) the existence of, or the performance by the Company, any of its Restricted Subsidiaries or any direct or indirect parent of the Company of its obligations under the terms of, any stockholders or principal investors agreement (including any registration rights agreement or purchase agreement related thereto) to which it is a party as of the Issue Date and any transaction, agreement or arrangement described in this offering circular and, in each case, any amendment thereto or similar transactions, agreements or arrangements which it may enter into thereafter; *provided, however*, that the existence of, or the performance by the Company or any of its Restricted Subsidiaries of obligations under, any future amendment to any such existing transaction, agreement or arrangement or any similar transaction, agreement or arrangement entered into after the Issue Date shall only be permitted by this clause (7) to the extent that the terms of any such existing transaction, agreement or arrangement together with all amendments thereto, taken as a whole, or new transaction, agreement or arrangement are not otherwise disadvantageous in any material respect to the Holders when taken as a whole as compared to the original agreement in effect on the Issue Date as determined in good faith by the Company;

(8) (a) transactions with customers, clients, suppliers, joint ventures, contractors, or purchasers or sellers of goods or services or providers of employees or other labor, or transactions otherwise relating to the purchase or sale of goods or services, in each case in the ordinary course of business and otherwise in compliance with the terms of the Indenture which are fair to the Company and its Restricted Subsidiaries, in the good faith determination of the board of directors (or similar governing body) of the Company or the senior management thereof, or are on terms at least as favorable as would reasonably have been obtained at such time from an unaffiliated party on an arm's length basis or (b) transactions with joint ventures or Unrestricted Subsidiaries entered into in the ordinary course of business and consistent with past practice;

(9) the issuance of Equity Interests (other than Disqualified Stock or Preferred Stock) of the Company or a Restricted Subsidiary to any person and the granting and performance of customary registration rights;

(10) payments by the Company or any of its Restricted Subsidiaries made for any financial advisory, consulting, financing, underwriting or placement services or in respect of other investment banking activities and other transaction fees, including, without limitation, in connection with acquisitions or divestitures which payments are approved by a majority of the board of directors of the Company in good faith or are otherwise permitted by the Indenture;

(11) (a) payments or loans (or cancellation of loans) or advances to employees, officers, directors, members of management, consultants or independent contractors (or the estate, heirs, family members, spouse, former spouse, domestic partner or former domestic partner of any of the foregoing) of the Company, any of its direct or indirect parent companies or any of its Restricted Subsidiaries and collective bargaining agreements, employment agreements, severance arrangements, compensatory (including profit sharing) arrangements, stock option plans, benefit plan, health, disability or similar insurance plan and other similar arrangements with such employees, officers, directors, managers, members of management, consultants or independent contractors (or the estate, heirs, family members, spouse, former spouse, domestic partner or former domestic partner of any of the foregoing), (b) any subscription agreement or similar agreement pertaining to the repurchase of Capital Stock pursuant to put/call rights or similar rights with future, present or former employees, officers, directors, members of management, consultants or independent contractors and (c) any issuance, sale or grant of securities or other payments, awards or grants in cash, securities or otherwise pursuant to, or the funding of employment arrangements, stock options and stock ownership plans approved by the board of directors (or equivalent governing body) of any direct or indirect parent company or of the Company or any Restricted Subsidiary;

(12) the Transactions and the payment of all fees and expenses related to the Transactions, including the Transaction Expenses and to satisfy any payment obligations under the Transaction Agreement after the Issue Date;

(13) any transaction effected as part of a Receivables Facility;

(14) any contribution to the capital of the Company or any Restricted Subsidiary;

(15) transactions permitted by, and complying with, the provisions of the covenant described under "—Merger, Consolidation or Sale of All or Substantially All Assets" solely for the purpose of (a) reorganizing to facilitate any initial public offering of securities of the Company or any direct or indirect parent company of the Company, (b) forming a holding company, or (c) reincorporating the Company in a new jurisdiction;

(16) between the Company or any Restricted Subsidiary and any Person, a director of which is also a director of the Company or any direct or indirect parent of the Company; provided, however, that such director abstains from voting as a director of the Company or such direct or indirect parent, as the case may be, on any matter involving such other Person;

(17) the issuance of securities or other payments, awards or grants in cash, securities or otherwise pursuant to, or the funding of, employment arrangements, stock option and stock ownership plans or similar employee benefit plans approved by the board of directors of the Company or any direct or indirect parent company of the Company or a Subsidiary of the Company, as appropriate, in good faith;

(18) transactions undertaken in good faith (as certified by a responsible financial or accounting officer of the Company in an Officer's Certificate) for the purposes of improving the consolidated tax efficiency of the Company and its Subsidiaries and not for the purpose of circumventing any covenant set forth in the Indenture;

(19) payments by the Company and its Restricted Subsidiaries pursuant to tax sharing, tax distribution or similar arrangements among any direct or indirect parent of the Company and its Subsidiaries on customary terms;

(20) investments by the Investors in securities of the Company or any Restricted Subsidiary (and payment of reasonable out-of-pocket expenses incurred by such Investors in connection therewith) so long as the investment is being generally offered to other investors on the same or more favorable terms;

(21) any transaction with a Person (other than an Unrestricted Subsidiary) which would constitute an Affiliate Transaction solely because the Company or a Restricted Subsidiary owns an Equity Interest in or otherwise controls such Person;

(22) pledges of Equity Interests of Unrestricted Subsidiaries;

(23) transactions with joint ventures for the purchase or sale of goods, equipment and services entered into in the ordinary course of business; and

(24) the payment of reasonable out-of-pocket costs and expenses related to registration rights and customary indemnities provided to shareholders under any shareholder agreement.

Dividend and Other Payment Restrictions Affecting Restricted Subsidiaries

The Company will not, and will not permit any of its Restricted Subsidiaries, directly or indirectly, to create or otherwise cause or suffer to exist or become effective any consensual encumbrance or consensual restriction on the ability of any such Restricted Subsidiary to:

(1) (a) pay dividends or make any other distributions to the Company or any of its Restricted Subsidiaries on its Capital Stock or with respect to any other interest or participation in, or measured by, its profits; or

(b) pay any Indebtedness owed to the Company or any of its Restricted Subsidiaries;

(2) make loans or advances to the Company or any Guarantor; or

(3) sell, lease or transfer any of its properties or assets to the Company or any Guarantor, except (in each case) for such encumbrances or restrictions existing under or by reason of:

(a) contractual encumbrances or restrictions in effect on the Issue Date, including pursuant to the Senior Credit Facilities, the Unsecured Notes and the related documentation;

(b) the Indenture, the Notes, the Guarantees thereof, the Intercreditor Agreements and the Security Documents;

(c) purchase money obligations for property acquired and Capitalized Lease Obligations in the ordinary course of business that impose restrictions of the nature discussed in clause (3) above on the property or assets so acquired;

(d) applicable law or any applicable rule, regulation or order or the terms of any license, authorization, concession or permit provided by any Governmental Authority;

(e) any agreement or other instrument of a Person acquired (or assumed in connection with the acquisition of property) by the Company or any of its Restricted Subsidiaries in existence at the time of such acquisition (but not created in contemplation thereof), which encumbrance or restriction is not applicable to any Person, or the properties or assets of any Person, other than the Person so acquired and its Subsidiaries, or the property or assets of the Person so acquired and its Subsidiaries;

(f) contracts or agreements for the sale of assets, including any restrictions with respect to a Subsidiary of the Company pursuant to an agreement that has been entered into for the sale or disposition of all or substantially all of the Capital Stock or assets of such Subsidiary;

(g) Secured Indebtedness otherwise permitted to be incurred pursuant to the covenants described under "—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock" and "—Liens" that apply solely to the assets securing such Indebtedness and/or the Restricted Subsidiaries incurring or guaranteeing such Indebtedness;

(h) restrictions on cash or other deposits or net worth imposed by customers under contracts entered into in the ordinary course of business;

(i) other Indebtedness, Disqualified Stock or Preferred Stock of non-Guarantor Subsidiaries of the Company permitted to be incurred or issued subsequent to the Issue Date pursuant to the provisions of the covenant described under "—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock";

(j) customary provisions in any partnership agreement, limited liability company organizational governance document, joint venture agreement and other similar agreement entered into in the ordinary course of business;

(k) customary provisions contained in leases, subleases, licenses or sublicenses, Equity Interests or asset sale agreements and other similar agreements, in each case, entered into in the ordinary course of business;

(l) any other agreement governing Indebtedness entered into after the Issue Date if (a) such encumbrances and other restrictions are, in the good faith judgment of the Company, no more restrictive in any material respect taken as a whole with respect to the Company or any Restricted Subsidiary than (i) the restrictions contained in the Indenture as of the Issue Date or (ii) those encumbrances and other restrictions that are in effect on the Issue Date with respect to that Restricted Subsidiary or the Company, as applicable pursuant to agreements in effect on the Issue Date, or (b) any such encumbrance or restriction contained in such Indebtedness does not prohibit (except upon a default or an event of default thereunder) the payment of dividends in an amount sufficient, as determined by the board of directors of the Company in good faith, to make scheduled payments of cash interest on the Notes when due;

(m) customary provisions restricting assignment of any agreement entered into in the ordinary course of business;

(n) other Indebtedness, Disqualified Stock or Preferred Stock of any Restricted Subsidiary that is a Guarantor, *provided* that such Indebtedness, Disqualified Stock or Preferred Stock is permitted to be incurred subsequent to the Issue Date by the covenant described under "—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock" and either (A) the provisions relating to such encumbrance or restriction contained in such Indebtedness are no less favorable to the Company, taken as a whole, as determined by the Company in good faith, than the provisions contained in the Senior Credit Facilities as in effect on the Issue Date or (B) any such encumbrance or restriction contained in such Indebtedness does not prohibit (except upon a default or an event of default thereunder) the payment of dividends in an amount sufficient, as determined by the Company in good faith, to make scheduled payments of cash interest on the Notes when due;

(o) customary restrictions and conditions contained in any agreement relating to the sale, transfer, lease or other disposition of any asset permitted by the covenant described under "—Asset Sales" pending the consummation of such sale, transfer, lease or other disposition;

(p) customary restrictions and conditions contained in the document relating to any Lien so long as (i) such Lien is a Permitted Lien and such restrictions or conditions relate only to the specific asset subject to such Lien and (ii) such restrictions and conditions are not created for the purpose of avoiding the restrictions imposed by this clause (p);

(q) restrictions created in connection with any Receivables Facility that in the good faith determination of the Company are necessary or advisable to effect such Receivables Facility;

(r) customary net worth or similar provisions contained in real property leases entered into by the Company or any Subsidiary so long as the Company or such Subsidiary has determined in good faith that such net worth or similar provisions could not reasonably be expected to impair the ability of the Company or such Subsidiary to meet its ongoing obligations;

(s) any encumbrance or restriction with respect to a Restricted Subsidiary that was previously an Unrestricted Subsidiary which encumbrance or restriction exists pursuant to or by reason of an agreement that such Subsidiary is a party to or entered into before the date on which such Subsidiary became a Restricted Subsidiary; *provided*, such agreement was not entered into in anticipation of an Unrestricted Subsidiary becoming a Restricted Subsidiary and any such encumbrance or restriction does not extend to any assets or property of the Company or any other Restricted Subsidiary other than the assets and property of such Subsidiary;

(t) restrictions contained in any agreement with respect to any IRB Transaction; and

(u) any encumbrances or restrictions of the type referred to in clauses (1), (2) and (3) above imposed by any amendments, modifications, restatements, renewals, increases, supplements, refundings, replacements or refinancings of the contracts, instruments or obligations referred to in clauses (a) through (t) above; *provided* that such amendments, modifications, restatements, renewals, increases, supplements, refundings, replacements or refinancings are, in the good faith judgment of the Company, no more restrictive in any material respect with respect to such encumbrances and other restrictions taken as a whole than those prior to such amendment, modification, restatement, renewal, increase, supplement, refunding, replacement or refinancing.

For purposes of determining compliance with this covenant, (1) the priority of any Preferred Stock in receiving dividends or liquidating distributions prior to dividends or liquidating distributions being paid on common stock shall not be deemed a restriction on the ability to make distributions on Capital Stock and (2) the subordination of loans or advances made to the Company or a Restricted Subsidiary to other Indebtedness incurred by the Company or any such Restricted Subsidiary shall not be deemed a restriction on the ability to make loans or advances.

Future Subsidiary Guarantors

The Company will not permit any of its Restricted Subsidiaries to guarantee or incur any Indebtedness under the Term Loan Credit Agreement, the Unsecured Notes or any of its Restricted Subsidiaries that are Domestic Subsidiaries to guarantee or incur any Indebtedness under any other syndicated bank or capital markets Indebtedness of the Issuer or any Restricted Subsidiary in an aggregate principal amount in excess of $50 million, unless such Restricted Subsidiary within 30 days executes and delivers a supplemental indenture to the Indenture providing for a Guarantee by such Restricted Subsidiary pursuant to which such Restricted Subsidiary will Guarantee payment of the Notes on the same terms and conditions as those set forth in the Indenture and the Notes. Notwithstanding the foregoing, each such Guarantee may be limited as necessary to recognize certain defenses generally available to guarantors (including those that relate to fraudulent conveyance or transfer, voidable preference, financial assistance, corporate purpose, capital maintenance or similar laws, regulations or defenses affecting the rights of creditors generally) or other considerations under applicable law.

Each Person that becomes a Guarantor after the Issue Date shall also become a party to the applicable Security Documents pursuant to the terms of the Indenture and shall as promptly as practicable, and in no event later than 90 days, execute and deliver such security instruments, financing statements, mortgages, deeds of trust (in substantially the same form as those executed and delivered with respect to the Collateral on the Issue Date or on the date first delivered in the case of Collateral that the Indenture provides may be delivered after the Issue Date (to the extent, and substantially in the form, delivered on the Issue Date or the date first delivered, as applicable (but no greater scope)) as may be necessary to vest in the Collateral Agent a perfected first-priority security interest (subject to Permitted Liens) in properties and assets that constitute Notes Priority Collateral and a perfected second-priority security interest (subject to Permitted Liens) in properties and assets that constitute

ABL Priority Collateral, as security for such Guarantor's Guarantee and as may be necessary to have such property or asset added to the Collateral as required under the Security Documents and the Indenture, and thereupon all provisions of the Indenture relating to the Collateral shall be deemed to relate to such properties and assets to the same extent and with the same force and effect.

Each Guarantee shall be released in accordance with the provisions of the Indenture described under "—Guarantees."

Reports and Other Information

Whether or not the Company is subject to the reporting requirements of Section 13 or 15(d) of the Exchange Act, so long as any Notes are outstanding, the Company will furnish to the Holders and the Trustee:

(1) (x) all annual and quarterly financial statements that would be required to be contained in a filing with the SEC on Forms 10-K and 10-Q of the Company, if the Company were required to file such forms, plus a "Management's Discussion and Analysis of Financial Condition and Results of Operations"; (y) with respect to the annual and quarterly information, a presentation of Adjusted EBITDA of the Company (the foregoing financial information to be prepared on a basis substantially consistent with the presentation of non-GAAP financial measures included in this offering circular); and (z) with respect to the annual financial statements only, a report on the annual financial statements by the Company's independent registered public accounting firm; it being understood that the Company shall not be required to include, except as otherwise provided in this paragraph (1), any other adjustment that would be required by any SEC rule, regulation or interpretation, including but not limited to any "push down" accounting adjustment; and

(2) within five Business Days after the occurrence of an event required to be therein reported, such other information containing substantially the same information that would be required to be contained in filings with the SEC on Form 8-K under Items 1.01, 1.02, 1.03, 2.01, 2.06, 4.01, 4.02, 5.01 and 5.02(b) with respect to executive officers and (c)(1) (other than with respect to information otherwise required or contemplated by Item 402 of Regulation S-K) (but excluding, for the avoidance of doubt, financial statements and exhibits that would be required pursuant to Item 9.01 of Form 8-K, other than financial statements and *pro forma* financial information required pursuant to clauses (a) and (b) of Item 9.01 of Form 8-K (in each case relating to transactions required to be reported pursuant to Item 2.01 of Form 8-K) to the extent available (as determined by the Issuer in good faith, which determination shall be conclusive)) if the Issuer had been a reporting company under the Exchange Act; *provided, however*, that no such current report will be required to be furnished if the Issuer determines in its good faith judgment that such event is not material to Holders or the business, assets, operations, financial position or prospects of the Issuer and its Restricted Subsidiaries, taken as a whole and the Issuer may omit from such disclosure any terms of such event if the Issuer determines in its good faith judgment that disclosure of such terms would otherwise cause material competitive harm to the business, assets, operations, financial position or prospects of the Issuer and its Restricted Subsidiaries, taken as a whole; *provided*, that such non-disclosure shall be limited only to those specific provisions that would cause material competitive harm and not the occurrence of the event itself *provided, further*, that no such current report will be required to include a summary of the terms of, any employment or compensatory arrangement agreement, plan or understanding between the Issuer (or any of its Subsidiaries) and any director, manager or executive officer, of the Issuer (or any of its Subsidiaries).

All such annual reports shall be furnished within 90 days after the end of the fiscal year to which they relate, and all such quarterly reports shall be furnished within 45 days after the end of the fiscal quarter to which they relate; *provided* that the annual report for the fiscal year ending December 31, 2016 shall be furnished within 120 days after the end of the fiscal year to which it relates and the quarterly report for the first two quarters ending after the Issue Date shall be furnished within 60 days after the end of the fiscal quarter to which it relates.

Notwithstanding the foregoing, (a) the Company will not be required to furnish any information, certificates or reports required by (i) Section 302, Section 404 or Section 906 of the Sarbanes-Oxley Act of 2002, or related

Items 307 or 308 of Regulation S-K, (ii) Regulation G or Item 10(e) of Regulation S-K promulgated by the SEC with respect to any non-generally accepted accounting principles financial measures contained therein, (iii) segment accounting rules or (iv) Rule 3-05, 3-09 and 3-10 of Regulation S-X, (b) such reports shall not be required to present compensation or beneficial ownership information and (c) such reports shall not be required to include any exhibits that would have been required to be filed pursuant to Item 601 of Regulation S-K (except this clause (c) shall not apply to any annual, quarterly or *pro forma* financial statements otherwise expressly required to be provided under this covenant).

The Company will (x) deliver such information and such reports (as well as the details regarding the conference call described below) to the Trustee under the Indenture, to any Holder of a Note and, upon request, to any beneficial owner of the Notes, in each case by posting such information on Intralinks or any comparable password-protected online data system which will require a confidentiality acknowledgment, and will make such information readily available to any prospective investor in the Notes that certifies to the reasonable satisfaction of the Company that it is an eligible purchaser of the Notes, any securities analyst (to the extent providing analysis of investment in the Notes and reasonably satisfactory to the Company) or any market maker in the Notes (who is reasonably satisfactory to the Company), in each case (i) who agrees to treat such information as confidential or (ii) accesses such information on Intralinks or any comparable password-protected online data system which will require a confidentiality acknowledgment; *provided* that the Company shall post such information thereon and make readily available any password or other login information to any such prospective investor in the Notes, any such securities analyst (to the extent providing analysis of investment in the Notes) or any such market maker in the Notes or (y) otherwise provide substantially comparable availability of such reports (as determined by the Company in good faith) (it being understood that, without limitation, making such reports available on Bloomberg or another private electronic information service shall constitute substantially comparable availability). The Company will hold a quarterly conference call (which may be a single conference call together with investors holding other securities or debt of the Company and/or its Restricted Subsidiaries or any direct or indirect parent company) for all Holders and securities analysts (to the extent providing analysis of investment in the Notes) to discuss such financial information promptly after distribution of such financial information. The Company may deny access to any competitively-sensitive information otherwise to be provided pursuant to this section to any Holder, prospective investor, securities analyst or market marker that is a competitor of the Company and its Subsidiaries or an affiliate of such a competitor to the extent that the Company determines in good faith that the provision of such information to such Person would be competitively harmful to the Company and its Subsidiaries; and provided that such Holders, prospective investors, security analysts or market makers will agree to (1) treat all such reports (and the information contained therein) and information as confidential, (2) not use such reports and the information contained therein for any purpose other than their investment or potential investment in the Notes and (3) not publicly disclose or distribute to any competitor any such reports (and the information contained therein).

To the extent not satisfied by the foregoing, the Company will also furnish to Holders, securities analysts (to the extent providing analysis of investment in the Notes) and prospective investors in the Notes upon request the information required to be delivered pursuant to Rule 144A(d)(4) under the Securities Act of 1933, as amended (the "*Securities Act*"), so long as the Notes are not freely transferable under the Securities Act.

If the Company has designated any of its Subsidiaries as an Unrestricted Subsidiary and if any such Unrestricted Subsidiary or group of Unrestricted Subsidiaries, if taken together as one Subsidiary, would constitute a Significant Subsidiary of the Company, then the annual and quarterly information required by the first paragraph of this covenant shall include a reasonably detailed presentation, either on the face of the financial statements or in the footnotes thereto, of the financial condition and results of operations of the Company and its Restricted Subsidiaries separate from the financial condition and results of operations of such Unrestricted Subsidiaries.

Notwithstanding the foregoing, the financial statements, information and other documents required to be provided as described above, may be those of (i) Holdings or Intermediate Holdings or (ii) any other direct or indirect parent of the Company; *provided* that, if the financial information so furnished relates to such direct or indirect parent of the Company, the same is accompanied by consolidating information that summarizes in reasonable detail the differences between the information relating to such parent, on the one hand, and the information relating to the Company on a standalone basis, on the other hand.

The Company will be deemed to have furnished the reports referred to in the first paragraph of this covenant if the Company, Holdings or any direct or indirect parent has filed reports containing such information with the SEC.

Delivery of such reports, information and documents to the Trustee is for informational purposes only and the Trustee's receipt of such shall not constitute actual or constructive knowledge or notice of any information contained therein or determinable from information contained therein, including the Company's compliance with any of its covenants hereunder (as to which the Trustee is entitled to rely exclusively on an Officer's Certificate). The Trustee will have no responsibility whatsoever to monitor whether such filing or posting has occurred or the timeliness or content of such filing or posting.

Events of Default and Remedies

The Indenture will provide that each of the following is an Event of Default:

(1) default in payment when due and payable, upon redemption, acceleration or otherwise, of principal of, or premium, if any, on the Notes;

(2) default for 30 days or more in the payment when due of interest on or with respect to the Notes;

(3) failure by the Company for 120 days after receipt of written notice given by the Trustee or the Holders of not less than 30% in principal amount of the Notes to comply with any of its obligations, covenants or agreements described in "Certain Covenants—Reports" and Other Information;

(4) failure by the Company or any Guarantor for 60 days after receipt of written notice given by the Trustee or the Holders of not less than 30% in principal amount of the Notes to comply with any of its obligations, covenants or agreements (other than a default referred to in clauses (1), (2) or (3) above) contained in the Indenture or the Notes;

(5) default under any mortgage, indenture or instrument under which there is issued or by which there is secured or evidenced any Indebtedness for money borrowed by the Company or any of its Restricted Subsidiaries or the payment of which is guaranteed by the Company or any of its Restricted Subsidiaries, other than Indebtedness owed to the Company or a Restricted Subsidiary, whether such Indebtedness or guarantee now exists or is created after the issuance of the Notes, if both:

(a) such default either results from the failure to pay any principal of such Indebtedness at its stated final maturity (after giving effect to any applicable grace periods) or relates to an obligation other than the obligation to pay principal of any such Indebtedness at its stated final maturity and results in the holder or holders of such Indebtedness causing such Indebtedness to become due prior to its stated maturity; and

(b) the principal amount of such Indebtedness, together with the principal amount of any other such indebtedness in default for failure to pay any principal at its stated final maturity (after giving effect to any applicable grace periods), or the maturity of which has been so accelerated, aggregate $100.0 million or more at any one time outstanding;

(6) failure by the Company or any Significant Subsidiary, or any group of Restricted Subsidiaries that, taken together (as of the latest audited consolidated financial statements for the Company), would constitute a Significant Subsidiary, to pay final judgments aggregating in excess of $100.0 million, which final judgments

remain unpaid, undischarged, unwaived and unstayed for a period of more than 90 days after such judgment becomes final, and in the event such judgment is covered by insurance, an enforcement proceeding has been commenced by any creditor upon such judgment or decree which is not promptly stayed;

(7) certain events of bankruptcy or insolvency with respect to the Company or any Significant Subsidiary, or any group of Restricted Subsidiaries that, taken together (as of the latest audited consolidated financial statements for the Company), would constitute a Significant Subsidiary;

(8) the Guarantee of any Significant Subsidiary, or any group of Restricted Subsidiaries that, taken together (as of the latest audited consolidated financial statements for the Company), would constitute a Significant Subsidiary, shall for any reason cease to be in full force and effect or any responsible officer of any Guarantor that is a Significant Subsidiary, or any group of Restricted Subsidiaries that, taken together (as of the latest audited consolidated financial statements for the Company), would constitute a Significant Subsidiary, as the case may be, denies that it has any further liability under its or their Guarantee(s) or gives notice to such effect, other than by reason of the termination of the Indenture or the release of any such Guarantee in accordance with the Indenture;

(9) unless all the Collateral has been released from the Liens in accordance with the provisions of the Security Documents, the Company shall assert or any Guarantor shall assert, in any pleading in a court of competent jurisdiction, that any such security interest is invalid or unenforceable and, in the case of any such Person that is a Subsidiary of the Issuer, the Issuer fails to cause such Subsidiary to rescind such assertions within 30 days after the Issuer has actual knowledge of such assertions; or

(10) the failure of the Company or any Guarantor to comply for 60 days after receipt of written notice with its other agreements contained in the Security Documents, except for a failure that would not be material to the whole of the Notes and without materially affecting the value of the Collateral taken as a whole.

If any Event of Default (other than of a type specified in clause (7) above with respect to the Company) occurs and is continuing under the Indenture, the Trustee or the Holders of at least 30% in principal amount of the then total outstanding Notes by notice to the Company may declare the principal, premium, if any, interest and any other monetary obligations on all the then outstanding Notes to be due and payable immediately.

Upon the effectiveness of such declaration, such principal, premium, if any, and interest will be due and payable immediately. Notwithstanding the foregoing, in the case of an Event of Default arising under clause (7) above with respect to the Company, all outstanding Notes will become due and payable without further action or notice. The Indenture will provide that the Trustee may withhold from the Holders notice of any continuing Default, except a Default relating to the payment of principal, premium, if any, or interest, if it determines that withholding such notice is in their interest.

The Indenture provides that the Holders of a majority in aggregate principal amount of the then outstanding Notes by notice to the Trustee may on behalf of the Holders of all of the Notes waive any existing Default and its consequences under the Indenture except a continuing Default in the payment of interest on, premium, if any, or the principal of any Note held by a non-consenting Holder. In the event of any Event of Default specified in clause (5) above, such Event of Default and all consequences thereof (excluding any resulting payment default, other than as a result of acceleration of the Notes) shall be annulled, waived and rescinded, automatically and without any action by the Trustee or the Holders, if within 20 days after such Event of Default arose:

(1) the Indebtedness or guarantee that is the basis for such Event of Default has been discharged; or

(2) holders thereof have rescinded or waived the acceleration, notice or action (as the case may be) giving rise to such Event of Default; or

(3) the default that is the basis for such Event of Default has been cured.

The Indenture will provide that, at any time after a declaration of acceleration with respect to the Notes, the Holders of a majority in principal amount of the Notes may rescind and cancel such declaration and its consequences:

(1) if the rescission would not conflict with any judgment or decree;

(2) if all existing Events of Default have been cured, waived, annulled or rescinded except nonpayment of principal or interest that has become due solely because of the acceleration;

(3) to the extent the payment of such interest is lawful, interest on overdue installments of interest and overdue principal, which has become due otherwise than by such declaration of acceleration, has been paid; and

(4) if the Company has paid the Trustee its reasonable compensation and reimbursed the Trustee for its expenses, disbursements and advances.

In case an Event of Default occurs and is continuing, the Trustee will be under no obligation to exercise any of the rights or powers under the Indenture at the request or direction of any of the Holders unless the Holders have offered to the Trustee indemnity or security satisfactory to it against any loss, liability or expense. Except to enforce the right to receive payment of principal, premium (if any) or interest when due, no Holder of a Note may pursue any remedy with respect to the Indenture or the Notes unless:

(1) such Holder has previously given the Trustee written notice that an Event of Default is continuing;

(2) Holders of at least 30% in principal amount of the total outstanding Notes have requested the Trustee, in writing, to pursue the remedy;

(3) Holders have offered the Trustee security or indemnity satisfactory to it against any loss, liability or expense;

(4) the Trustee has not complied with such request within 60 days after the receipt thereof and the offer of security or indemnity; and

(5) Holders of a majority in principal amount of the total outstanding Notes have not given the Trustee a written direction inconsistent with such request within such 60-day period.

Subject to certain restrictions, under the Indenture the Holders of a majority in principal amount of the total outstanding Notes are given the right to direct the time, method and place of conducting any proceeding for any remedy available to the Trustee or of exercising any trust or power conferred on the Trustee. The Trustee, however, may refuse to follow any direction that conflicts with law or the Indenture or that the Trustee determines is unduly prejudicial to the rights of any other Holder of a Note or that would involve the Trustee in personal liability.

The Indenture will provide that the Company is required to deliver to the Trustee annually a statement regarding compliance with the Indenture, and the Company is required, within five Business Days, after becoming aware of any Default, to deliver to the Trustee a statement specifying such Default.

Limited Condition Acquisition; Measuring Compliance

With respect to any (x) acquisition or similar Investment for which the Company or any Subsidiary of the Company may not terminate its obligations due to a lack of financing for such acquisition or similar Investment (whether by merger, consolidation or other business combination or the acquisition of Capital Stock or otherwise) as applicable or (y) repayment, repurchase or refinancing of Indebtedness with respect to which an irrevocable notice of repayment (or similar irrevocable notice) has been delivered, in each case, for purposes of determining:

(1) whether any Indebtedness (including Acquired Indebtedness) that is being incurred in connection with such acquisition or similar Investment or repayment, repurchase or refinancing of Indebtedness is permitted to be

incurred in compliance with the covenant described under the caption "—Certain Covenants—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock";

(2) whether any Lien being incurred in connection with such acquisition or similar Investment or repayment, repurchase or refinancing of Indebtedness or to secure any such Indebtedness is permitted to be incurred in accordance with the covenant described under the caption "—Certain Covenants—Liens" or the definition of "Permitted Liens";

(3) whether any other transaction undertaken or proposed to be undertaken in connection with such acquisition or similar Investment or repayment, repurchase or refinancing of Indebtedness complies with the covenants or agreements contained in the Indenture or the Notes; and

(4) any calculation of the Fixed Charge Coverage Ratio, Consolidated Total Leverage Ratio, Consolidated Secured Debt Ratio, Net Income, Consolidated Net Income and/or EBITDA and, whether a Default or Event of Default exists in connection with the foregoing,

at the option of the Company, using the date that the definitive agreement for such acquisition or similar Investment or repayment, repurchase or refinancing of Indebtedness is entered into (the "*Transaction Agreement Date*") may be used as the applicable date of determination, as the case may be, in each case with such *pro forma* adjustments as are appropriate and consistent with the *pro forma* adjustment provisions set forth in the definition of "Fixed Charge Coverage Ratio" or "EBITDA." For the avoidance of doubt, if the Company elects to use the Transaction Agreement Date as the applicable date of determination in accordance with the foregoing, (a) any fluctuation or change in the Fixed Charge Coverage Ratio, Consolidated Total Leverage Ratio, Consolidated Secured Debt Ratio, Net Income, Consolidated Net Income or EBITDA of the Company, the target business or assets to be acquired subsequent to the Transaction Agreement Date and at or prior to the consummation of such acquisition or similar Investment or repayment, repurchase or refinancing of Indebtedness, will not be taken into account for purposes of determining whether any Indebtedness or Lien that is being incurred in connection with such acquisition or similar Investment or repayment, repurchase or refinancing of Indebtedness is permitted to be incurred or in connection with compliance by the Company or any of the Restricted Subsidiaries with any other provision of the Indenture or the Notes or any other transaction undertaken in connection with such acquisition or similar Investment or repayment, repurchase or refinancing of Indebtedness and (b) until such acquisition or similar Investment or repayment, repurchase or refinancing of Indebtedness is consummated or such definitive agreements are terminated, such acquisition or similar Investment or repayment, repurchase or refinancing of Indebtedness and all transactions proposed to be undertaken in connection therewith (including the incurrence of Indebtedness and Liens) will be given *pro forma* effect when determining compliance of other transactions (including the incurrence of Indebtedness and Liens unrelated to such acquisition or similar Investment or repayment, repurchase or refinancing of Indebtedness) that are consummated after the Transaction Agreement Date and on or prior to the consummation of such acquisition or similar Investment or repayment, repurchase or refinancing of Indebtedness and any such transactions (including any incurrence of Indebtedness and the use of proceeds thereof) will be deemed to have occurred on the date the definitive agreements are entered and outstanding thereafter for purposes of calculating any baskets or ratios under the Indenture after the date of such agreement and before the consummation of such acquisition or similar Investment or repayment, repurchase or refinancing of Indebtedness; provided that in connection with the making of Restricted Payments, the calculation of Consolidated Net Income (and any defined term a component of which is Consolidated Net Income) will not, in any case, assume such acquisition or similar Investment has been consummated. In addition, the Indenture will provide that compliance with any requirement relating to absence of Default or Event of Default may be determined as of the Transaction Agreement Date and not as of any later date as would otherwise be required under the Indenture. In the event an item of Indebtedness, Disqualified Stock or Preferred Stock (or any portion thereof) is incurred or issued, any Lien is incurred or other transaction is undertaken on the same date that any other item of Indebtedness, Disqualified Stock or Preferred Stock (or any portion thereof) is incurred or issued, any other Lien is incurred or other transaction is undertaken, then the Fixed Charge Coverage Ratio, Consolidated Total Leverage Ratio and Consolidated Secured Debt Ratio will be calculated with respect to such incurrence, issuance or other transaction without regard to any other incurrence, issuance or transaction. Each item of Indebtedness, Disqualified Stock or Preferred Stock that is incurred or issued, each Lien incurred and each other transaction undertaken will be deemed to have been incurred, issued or taken first, to the extent available, pursuant to the relevant Fixed Charge Coverage Ratio, Consolidated Total Leverage Ratio and Consolidated Secured Debt Ratio.

No Personal Liability of Directors, Officers, Employees and Stockholders

No past, present or future director, officer, employee, manager, incorporator, member, partner or stockholder of the Issuer or any Guarantor or any of their Subsidiaries or direct or indirect parent companies shall have any liability for any obligations of the Issuer or the Guarantors under the Notes, the Guarantees or the Indenture or for any claim based on, in respect of, or by reason of such obligations or their creation. Each Holder by accepting Notes waives and releases all such liability. The waiver and release are part of the consideration for issuance of the Notes. Such waiver may not be effective to waive liabilities under the federal securities laws and it is the view of the SEC that such a waiver is against public policy.

Legal Defeasance and Covenant Defeasance

The obligations of the Issuer and the Guarantors under the Indenture, the Notes and the Guarantees will terminate (other than certain obligations) and will be released upon payment in full of all of the Notes. The Issuer may, at its option and at any time, elect to have all of its obligations discharged with respect to the Notes and have each Guarantor's obligation discharged with respect to its Guarantee ("*Legal Defeasance*") and cure all then existing Events of Default except for:

(1) the rights of Holders of Notes to receive payments in respect of the principal of, premium, if any, and interest on the Notes when such payments are due solely out of the trust created pursuant to the Indenture;

(2) the Issuer's obligations with respect to Notes concerning issuing temporary Notes, registration of such Notes, mutilated, destroyed, lost or stolen Notes and the maintenance of an office or agency for payment and money for security payments held in trust;

(3) the rights, powers, trusts, duties and immunities of the Trustee, and the Issuer's obligations in connection therewith; and

(4) the Legal Defeasance provisions of the Indenture.

In addition, the Issuer may, at its option and at any time, elect to have its obligations and those of each Guarantor released with respect to substantially all of the restrictive covenants in the Indenture ("*Covenant Defeasance*") and thereafter any omission to comply with such obligations shall not constitute a Default with respect to the Notes. In the event Covenant Defeasance occurs, certain events (not including bankruptcy, receivership, rehabilitation and insolvency events pertaining to the Company) described under "Events of Default and Remedies" will no longer constitute an Event of Default with respect to the Notes.

In order to exercise either Legal Defeasance or Covenant Defeasance with respect to the Notes:

(1) the Issuer must irrevocably deposit with the Trustee, in trust, for the benefit of the Holders, cash in U.S. dollars, Government Securities, or a combination thereof, in such amounts as will be sufficient, without consideration of any reinvestment of interest, in the opinion of a nationally recognized firm of independent public accountants, investment bank or appraisal firm, to pay the principal of, premium, if any, and interest due on the Notes on the stated maturity date or on the redemption date, as the case may be, of such principal, premium, if any, or interest on such Notes (provided that if such redemption is made as provided under "Optional redemption," (x) the amount of cash in U.S. dollars, Government Securities, or a combination thereof, that the

Issuer must irrevocably deposit or cause to be deposited will be determined using an assumed Applicable Premium calculated as of the date of such deposit and (y) the Issuer must irrevocably deposit or cause to be deposited additional money in trust on the redemption date as necessary to pay the Applicable Premium as determined on such date) and the Issuer must specify whether such Notes are being defeased to maturity or to a particular redemption date; *provided*, upon any redemption that requires the payment of the Applicable Premium, the amount deposited will be sufficient for purposes of the Indenture to the extent that an amount is deposited with the Trustee equal to the Applicable Premium calculated as of the date of the notice of redemption, with any deficit as of the date of redemption (any such amount, the "*Applicable Premium Deficit*") only required to be deposited with the Trustee on or prior to the date of redemption. Any Applicable Premium Deficit will be set forth in an Officer's Certificate delivered to the Trustee simultaneously with the deposit of such Applicable Premium Deficit that confirms that such Applicable Premium Deficit will be applied toward such redemption;

(2) in the case of Legal Defeasance, the Issuer shall have delivered to the Trustee an Opinion of Counsel confirming that, subject to customary assumptions and exclusions,

(a) the Issuer have received from, or there has been published by, the United States Internal Revenue Service a ruling, or

(b) since the issuance of the Notes, there has been a change in the applicable U.S. federal income tax law, in either case to the effect that, and based thereon such Opinion of Counsel shall confirm that, subject to customary assumptions and exclusions, the Holders will not recognize income, gain or loss for U.S. federal income tax purposes, as applicable, as a result of such Legal Defeasance and will be subject to U.S. federal income tax on the same amounts, in the same manner and at the same times as would have been the case if such Legal Defeasance had not occurred;

(3) in the case of Covenant Defeasance, the Issuer shall have delivered to the Trustee an Opinion of Counsel confirming that, subject to customary assumptions and exclusions, the Holders will not recognize income, gain or loss for U.S. federal income tax purposes as a result of such Covenant Defeasance and will be subject to such tax on the same amounts, in the same manner and at the same times as would have been the case if such Covenant Defeasance had not occurred;

(4) no Default (other than that resulting from borrowing funds to be applied to make such deposit and the granting of Liens in connection therewith) shall have occurred and be continuing on the date of such deposit;

(5) such Legal Defeasance or Covenant Defeasance shall not result in a breach or violation of, or constitute a default under the Senior Credit Facilities have been issued or any other material agreement or instrument (other than the Indenture) to which the Issuer or any Guarantor is a party or by which the Issuer or any Guarantor is bound;

(6) the Issuer shall have delivered to the Trustee an Officer's Certificate stating that the deposit was not made by the Issuer with the intent of defeating, hindering, delaying or defrauding any creditors of the Issuer or any Guarantor or others; and

(7) the Issuer shall have delivered to the Trustee an Officer's Certificate and an Opinion of Counsel (which Opinion of Counsel may be subject to customary assumptions and exclusions) each stating that all conditions precedent provided for or relating to the Legal Defeasance or the Covenant Defeasance, as the case may be, have been complied with.

Notwithstanding the foregoing, an Opinion of Counsel required by the immediately preceding paragraph with respect to legal defeasance need not be delivered if all of the Notes not theretofore delivered to the Trustee for cancellation (x) have become due and payable or (y) will become due and payable at their stated maturity within one year under arrangements satisfactory to the Trustee for the giving of notice of redemption by the Trustee in the name, and at the expense, of the Issuer.

Satisfaction and Discharge

The Indenture will be discharged and will cease to be of further effect as to all Notes, when either:

(1) (a) all Notes theretofore authenticated and delivered, except lost, stolen or destroyed Notes which have been replaced or paid and Notes for whose payment money has theretofore been deposited in trust or segregated and held in trust by the Issuer and thereafter repaid to the Issuer or discharged from trust, have been delivered to the Trustee for cancellation; or

(b) all Notes not theretofore delivered to the Trustee for cancellation have become due and payable by reason of the making of a notice of redemption or otherwise, will become due and payable within one year or are to be called for redemption within one year under arrangements satisfactory to the Trustee for the giving of notice of redemption by the Trustee in the name, and at the expense, of the Issuer and either Issuer or any Guarantor has irrevocably deposited or caused to be deposited with the Trustee as trust funds in trust solely for the benefit of the Holders, cash in U.S. dollars, Government Securities, or a combination thereof, in such amounts as will be sufficient without consideration of any reinvestment of interest to pay and discharge the entire indebtedness on the Notes not theretofore delivered to the Trustee for cancellation for principal, premium, if any, and accrued interest to, but not including, the date of maturity or redemption (in connection with any deposit of Government Securities, the Trustee shall receive an opinion from a national recognized firm of independent public accountants confirming the sufficiency of any amounts deposited with the Trustee or paying agent); *provided*, (i) upon any redemption that requires the payment of the Applicable Premium, the amount deposited will be sufficient for purposes of the Indenture to the extent that an amount is deposited with the Trustee equal to the Applicable Premium calculated as of the date of the notice of redemption, with any Applicable Premium Deficit only required to be deposited with the Trustee on or prior to the date of redemption and (ii) any Applicable Premium Deficit will be set forth in an Officer's Certificate delivered to the Trustee simultaneously with the deposit of such Applicable Premium Deficit that confirms that such Applicable Premium Deficit will be applied toward such redemption;

(2) the Issuer and/or the Guarantors have paid or caused to be paid all sums payable by it under the Indenture; and

(3) the Issuer has delivered irrevocable instructions to the Trustee to apply the deposited money toward the payment of the Notes at maturity or the redemption date, as the case may be.

In addition, the Issuer must deliver an Officer's Certificate and an Opinion of Counsel to the Trustee stating that all conditions precedent to satisfaction and discharge have been satisfied.

Amendment, Supplement and Waiver

Except as provided in the next two succeeding paragraphs, the Indenture, any Guarantee and the Notes may be amended or supplemented with the consent of the Holders of at least a majority in principal amount of the Notes then outstanding, including consents obtained in connection with a purchase of, or tender offer or exchange offer for, Notes, and any past or existing Default or compliance with any provision of the Indenture, any Guarantee or the Notes issued thereunder may be waived with the consent of the Holders of a majority in principal amount of the then outstanding Notes (including consents obtained in connection with a purchase of or tender offer or exchange offer for the Notes), in each case other than Notes beneficially owned by the Issuer or its Affiliates (unless such Affiliates are the only beneficial owners of the Notes).

The Indenture will provide that, without the consent of each affected Holder of Notes (including, for the avoidance of doubt, any Notes held by Affiliates), an amendment or waiver may not, with respect to any Notes held by a non-consenting Holder:

(1) reduce the principal amount of such Notes whose Holders must consent to an amendment, supplement or waiver;

(2) reduce the principal of or change the fixed final maturity of any such Note or alter or waive the provisions with respect to the redemption of such Notes (other than provisions relating to the covenants described above under the caption "Repurchase at the Option of Holders"); *provided* that any amendment to notice requirements may be made with the consent of the Holders of a majority in aggregate principal amount of the Notes then outstanding;

(3) reduce the rate of or change the time for payment of interest on any Note;

(4) waive a Default in the payment of principal of or premium, if any, or interest on the Notes, except a rescission of acceleration of the Notes by the Holders of at least a majority in aggregate principal amount of the Notes and a waiver of the payment default that resulted from such acceleration, or in respect of a covenant or provision contained in the Indenture or any Guarantee which cannot be amended or modified without the consent of all affected Holders;

(5) make any Note payable in money other than that stated therein;

(6) make any change in the provisions of the Indenture relating to waivers of past Defaults or the rights of Holders to receive payments of principal of or premium, if any, or interest on the Notes;

(7) make any change in the amendment and waiver provisions of the Indenture described herein;

(8) impair the contractual right of any Holder under the Indenture to institute suit for the enforcement of any payment on or with respect to such Holder's Notes;

(9) make any change to or modify the ranking of the Notes that would materially adversely affect the Holders;

(10) except as expressly permitted by the Indenture, modify the Guarantee of or any Significant Subsidiary, or any group of Restricted Subsidiaries that, taken together (as of the latest audited consolidated financial statements for the Company), would constitute a Significant Subsidiary, in any manner adverse to the Holders; or

(11) make any change in the provisions in the Intercreditor Agreements or the Indenture dealing with the application of proceeds of Collateral that would adversely affect the Holders of the Notes.

Additionally, without the consent of holders of at least 66 $^{2}/_{3}$% in principal amount of the Notes then outstanding, no such amendment, waiver or modification will release all or substantially all of the Collateral from the Liens securing the Notes and Guarantees.

Notwithstanding the foregoing, the Issuer, any Guarantor (with respect to a Guarantee or the Indenture to which it is a party) and the Trustee may amend or supplement the Indenture and any Guarantee or Notes without the consent of any Holder:

(1) to cure any ambiguity, omission, mistake, defect or inconsistency as certified by the Issuer;

(2) to provide for uncertificated Notes of such series in addition to or in place of certificated Notes;

(3) to comply with the covenant relating to mergers, consolidations and sales of assets;

(4) to provide for the assumption of the Issuer's or any Guarantor's obligations to the Holders in a transaction that complies with the Indenture;

(5) to make any change that would provide any additional rights or benefits to the Holders or that does not adversely affect the legal rights under the Indenture of any such Holder;

(6) to add covenants for the benefit of the Holders or to surrender any right or power conferred upon the Issuer or any Guarantor;

(7) to comply with requirements of the SEC in order to effect or maintain the qualification of the Indenture under the Trust Indenture Act (it being agreed that the Indenture need not qualify under the Trust Indenture Act);

(8) to evidence and provide for the acceptance and appointment under the Indenture of a successor Trustee thereunder pursuant to the requirements thereof;

(9) to provide for the issuance of exchange notes or private exchange notes, which are identical to exchange notes except that they are not freely transferable;

(10) to add a Guarantor or a co-obligor of the Notes under the Indenture or to release a Guarantor in accordance with the terms of the Indenture and to provide for any local law restrictions required by the jurisdiction of organization of such Guarantor;

(11) to conform the text of the Indenture, Guarantees, the Notes, any Security Document or any Intercreditor Agreement to any provision of this "Description of Notes" to the extent that such provision in this "Description of Notes" was intended to be a verbatim recitation of a provision of the Indenture, Guarantee, the Notes, any Security Document or any Intercreditor Agreement, as certified by the Issuer (as provided for in an Officer's Certificate to the Trustee);

(12) to make certain changes to the Indenture to provide for the issuance of Additional Notes;

(13) to make any amendment to the provisions of the Indenture relating to the transfer and legending of Notes as permitted by the Indenture, including, without limitation to facilitate the issuance and administration of the Notes; *provided*, *however*, that (i) compliance with the Indenture as so amended would not result in Notes being transferred in violation of the Securities Act or any applicable securities law and (ii) such amendment does not materially and adversely affect the rights of Holders to transfer Notes; or

(14) to add additional assets as Collateral, to release Collateral from the Lien pursuant to the Indenture, the Security Documents and the Intercreditor Agreements when permitted or required by the Indenture, the Security Documents or the Intercreditor Agreements and to modify the Security Documents and/or the Intercreditor Agreements to secure additional extensions of credit and add additional secured creditors holding Obligations that are permitted to constitute Pari Passu Obligations or other permitted obligations, as applicable under the applicable Intercreditor Agreement pursuant to the terms of the Indenture.

The consent of the Holders is not necessary under the Indenture to approve the particular form of any proposed amendment. It is sufficient if such consent approves the substance of the proposed amendment.

Additionally, if the Issuer enters into a new ABL Credit Agreement, the Collateral Agent shall, upon request of the Issuer, enter into a new ABL Intercreditor Agreement without the consent of any Holder.

Payments for Consent

The Indenture will not contain limitations on the Company's ability to pay, or cause to be paid, any consideration, whether by way of interest, fee or otherwise, to any holder of any Notes for or as an inducement to any consent, waiver or amendment of any of the terms of the Indenture or the Notes.

Notices

Notices given by first-class mail, postage prepaid, will be deemed given five calendar days after mailing; notices personally delivered will be deemed given at the time delivered by hand; notices given by facsimile will be deemed given when receipt is acknowledged; notices given by overnight air courier guaranteeing next day delivery will be deemed given the next Business Day after timely delivery to the courier; and notices given electronically will be deemed given when sent. Any notices required to be given to the holders of notes represented by global notes will be given to The Depository Trust Company.

Concerning the Trustee

The Indenture will contain certain limitations on the rights of the Trustee thereunder, should it become a creditor of the Issuer, to obtain payment of claims in certain cases, or to realize on certain property received in respect of any such claim as security or otherwise. The Trustee will be permitted to engage in other transactions; however, if it acquires any conflicting interest, as defined in the Indenture, it must eliminate such conflict within 90 days, apply to the SEC for permission to continue or resign.

The Indenture will provide that the Holders of a majority in aggregate principal amount of the outstanding Notes will have the right to direct the time, method and place of conducting any proceeding for exercising any remedy available to the Trustee, subject to certain exceptions. The Indenture will provide that in case an Event of Default shall occur (which shall not be cured), the Trustee will be required, in the exercise of its power, to use the degree of care that a prudent person would use under the circumstances in the conduct of his own affairs. The Trustee will be under no obligation to exercise any of its rights or powers under the Indenture at the request of any Holder of a Note, unless such Holder, subject to the terms of the Indenture, shall have offered to the Trustee security and indemnity satisfactory to it against any loss, liability or expense.

Governing Law

The Indenture, the Notes and any Guarantee will be governed by and construed in accordance with the laws of the State of New York.

Certain Definitions

Set forth below are certain defined terms used in the Indenture. For purposes of the Indenture, unless otherwise specifically indicated, the term "*consolidated*" with respect to any Person refers to such Person consolidated with its Restricted Subsidiaries, and excludes from such consolidation any Unrestricted Subsidiary as if such Unrestricted Subsidiary were not an Affiliate of such Person.

"*ABL Agent*" means the administrative agent and collateral agent under any ABL Credit Agreement, and its successors, replacements and/or assigns in such capacity.

"*ABL Credit Agreement*" means any agreement providing for revolving Indebtedness (including any amendments, supplements, modifications, refinancings, replacements, extensions, renewals, restatements or refundings thereof) that is incurred and/or letters of credit that are issued to finance working capital and other purposes (but excluding any term loans or debt securities) with respect to which each of the following conditions is met:

(i) the Indebtedness under such agreement is permitted to be incurred pursuant to the covenant described under "Certain Covenants—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock";

(ii) the Issuer has designated such agreement (including any refinancings, replacements or refundings thereof, as applicable) to be an "ABL Credit Agreement" for purposes of the Indenture in an officer's certificate delivered to the Trustee;

(iii) the ABL Agent under such agreement has entered into the ABL Intercreditor Agreement as an "ABL Agent" thereunder; and

(iv) the Obligations under such credit agreement do not constitute Pari Passu Obligations under the Pari Passu Intercreditor Agreement.

"*ABL Obligations*" means the Indebtedness and other Obligations in respect of an ABL Credit Agreement and any Hedging Obligations and cash management obligations that are secured by the Liens securing the Indebtedness incurred pursuant to the ABL Credit Agreement pursuant to the security documents entered into in connection with the ABL Credit Agreement.

"*ABL Priority Collateral*" means the following property of the Issuer and the Guarantors, whether now owned or hereafter acquired, that are collateral for any ABL Obligations:

(1) all accounts, other than accounts which constitute identifiable proceeds which arise from the sale or other disposition of Notes Priority Collateral;

(2) all chattel paper, other than chattel paper which constitutes identifiable proceeds of Notes Priority Collateral;

(3) all (x) deposit accounts and money and all cash, checks, other negotiable instruments, funds and other evidences of payments held therein and (y) securities accounts (and security entitlements and securities credited thereto), and, in each case, all cash, checks and other property held therein or credited thereto other than, in each case, identifiable proceeds of Notes Priority Collateral;

(4) all inventory;

(5) to the extent relating to, evidencing or governing any of the items referred to in the preceding clauses (1) through (4) constituting ABL Priority Collateral, all documents, general intangibles (other than Equity Interests of Subsidiaries, patents, trademarks, copyrights and other intellectual property), instruments (including promissory notes) and commercial tort claims; *provided* that in no event shall any real estate, equipment, intellectual property or Equity Interests of Subsidiaries constitute ABL Priority Collateral;

(6) to the extent relating to any of the items referred to in the preceding clauses (1) through (5) constituting ABL Priority Collateral, all supporting obligations and letter of credit rights;

(7) all books and records relating to the items referred to in the preceding clauses (1) through (6) constituting ABL Priority Collateral (including all books, databases, customer lists and records, whether tangible or electronic, which contain any information relating to any of the items referred to in the preceding clauses (1) through (6)); and

(8) all proceeds of any of the foregoing, including collateral security and guarantees with respect to any of the foregoing and all cash, money, insurance proceeds, instruments, securities, financial assets and deposit accounts.

"*Acquired Indebtedness*" means, with respect to any specified Person,

(1) Indebtedness of any other person existing at the time such other Person is consolidated, merged or amalgamated with or into or became a Restricted Subsidiary of such specified Person, including Indebtedness incurred in connection with, or in contemplation of, such other Person merging or amalgamating with or into, or becoming a Restricted Subsidiary of, such specified Person, and

(2) Indebtedness secured by a Lien encumbering any asset acquired by such specified Person.

"*Acquisition*" means the transactions contemplated by the Transaction Agreement.

"*Affiliate*" of any specified Person means any other Person directly or indirectly controlling or controlled by or under direct or indirect common control with such specified Person. For purposes of this definition, "control" (including, with correlative meanings, the terms "*controlling*," "*controlled by*" and "*under common control with*"), as used with respect to any Person, shall mean the possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of such Person, whether through the ownership of voting securities, by agreement or otherwise.

"*Applicable Premium*" means, with respect to any Note on any Redemption Date, the greater of:

(1) 1.0% of the principal amount of such Note; and

(2) the excess, if any, of (a) the present value at such Redemption Date of (i) the redemption price of such Note at   , 2019 (such redemption price being set forth in the table appearing above under the caption "Optional Redemption"), *plus* (ii) all required interest payments due on such Note through   , 2019 (excluding accrued but unpaid interest to the Redemption Date), computed using a discount rate equal to the Treasury Rate as of such Redemption Date *plus* 50 basis points; over (b) the then outstanding principal amount of such Note as calculated by the Company or on behalf of the Company by such Person as the Company shall designate; *provided* that such calculation shall not be a duty or an obligation of the Trustee.

"*Asset Sale*" means:

(1) the sale, conveyance, transfer or other disposition, whether in a single transaction or a series of related transactions, of property or assets (including by way of a Sale and Lease-Back Transaction) of the Company or any of its Restricted Subsidiaries (each referred to in this definition as a "*disposition*"); or

(2) the issuance or sale of Equity Interests of any Restricted Subsidiary, whether in a single transaction or a series of related transactions (other than Preferred Stock of Restricted Subsidiaries issued in compliance with the covenant described under "Certain Covenants—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock" and directors' qualifying shares and shares issued to foreign nationals as required under applicable law);

in each case, other than:

(a) any disposition of (i) Cash Equivalents (or other financial assets that were Cash Equivalents when the original Investment was made) or Investment Grade Securities, (ii) surplus, obsolete, used, damaged or worn out property or equipment in the ordinary course of business (whether now owned or hereafter acquired) or any disposition or consignment of equipment, inventory or goods (or other assets) held for sale in the ordinary course of business, (iii) property no longer used or useful in the conduct of business of the Company and its Restricted Subsidiaries and (iv) property or equipment that is otherwise economically impracticable to maintain;

(b) the disposition of all or substantially all of the assets of the Company in a manner permitted pursuant to the provisions described above under "Certain Covenants—Merger, Consolidation or Sale of All or Substantially All Assets" or any disposition that constitutes a Change of Control pursuant to the Indenture;

(c) the making of any Restricted Payment that is permitted to be made, and is made, under the covenant described above under "Certain Covenants—Limitation on Restricted Payments" or the making of any Permitted Investment;

(d) any disposition of assets of the Company or any Restricted Subsidiary or issuance or sale of Equity Interests of any Restricted Subsidiary in any transaction or series of transactions with an aggregate fair market value not to exceed $20.0 million;

(e) any disposition of property or assets or issuance of securities by a Restricted Subsidiary to the Company or by the Company or a Restricted Subsidiary to another Restricted Subsidiary;

(f) to the extent allowable under Section 1031 of the Code, any exchange of like property (excluding any boot thereon) for use in a Similar Business;

(g) (i) the sale, lease, assignment, sublease, license or sublicense of any real or personal property in the ordinary course of business and (ii) the termination of leases in the ordinary course of business;

(h) any issuance or sale of Equity Interests in, or Indebtedness or other securities of, an Unrestricted Subsidiary or any other disposition of such Unrestricted Subsidiary or any disposition of assets of such Unrestricted Subsidiary;

(i) any disposition arising from foreclosure, casualty, condemnation or any similar action or transfers by reason of eminent domain with respect to any property or other asset of the Company or any of the Restricted Subsidiaries or exercise of termination rights under any lease, sublease, license, sublicense, concession or other agreement;

(j) a transfer of accounts receivable and related assets of the type specified in the definition of "Receivables Facility" (or a fractional undivided interest therein or pursuant to any factoring or similar arrangement);

(k) dispositions in connection with the granting of a Lien that is permitted under the covenant described above under "Certain Covenants—Liens";

(l) the issuance by a Restricted Subsidiary of Preferred Stock or Disqualified Stock that is permitted by the covenant described under the caption "Certain Covenants—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock";

(m) any financing transaction with respect to property built or acquired by the Company or any Restricted Subsidiary after the Issue Date, including Sale and Lease-Back Transactions and asset securitizations, permitted by the Indenture;

(n) any grant in the ordinary course of business of any license of patents, trademarks, know-how or any other intellectual property, including, but not limited to, grants of franchises or licenses, franchise or license master agreements and/or area development agreements;

(o) dispositions of receivables in connection with the compromise, settlement or collection thereof in the ordinary course of business or in bankruptcy or similar proceedings;

(p) the sale, discount or forgiveness of accounts receivable or notes receivable in the ordinary course of business or in connection with the collection or compromise thereof or the conversion of accounts receivable to notes receivable;

(q) the abandonment of intellectual property rights in the ordinary course of business which in the reasonable good faith determination of the Company are uneconomical or not material to the conduct of the business of the Company and the Restricted Subsidiaries taken as a whole;

(r) termination of non-speculative Hedging Obligations;

(s) any surrender or waiver of contract rights or the settlement, release, recovery on or surrender of contract, tort or other claims of any kind in the ordinary course of business;

(t) sales, transfers and other dispositions of Investments in joint ventures or any Subsidiary that is not a Wholly-Owned Subsidiary to the extent required by, or made pursuant to, buy/sell arrangements between the joint venture or similar parties set forth in the relevant joint venture arrangements and/or similar binding arrangements;

(u) dispositions of real property and related assets in the ordinary course of business in connection with relocation activities for directors, officers, employees, members of management or consultants of any direct or indirect parent company, the Company or any Subsidiary;

(v) dispositions and/or terminations of leases, subleases, licenses or sublicenses (including the provision of software under any open source license), which (i) do not materially interfere with the business of the Company and its Restricted Subsidiaries, taken as a whole, or (ii) relate to closed facilities or the discontinuation of any product line;

(w) dispositions of non-core assets acquired in connection with any acquisition otherwise permitted under the Indenture and sales of Real Estate Assets acquired in any acquisition otherwise permitted under the Indenture; *provided* that the Net Proceeds received in connection with any such disposition shall be applied in accordance with the covenant described under "—Repurchase at the Option of Holders—Asset Sales" (it being understood that notwithstanding the foregoing such amounts and only such amounts shall not be required to be applied or otherwise comply with clauses (1) or (2) of the covenant described under "—Repurchase at the Option of Holders—Asset Sales"); and

(x) sales, transfers, dispositions or conveyances that arise out of or relate to any (a) Specified Lease Transactions or (b) IRB Transaction.

"*Bank Products*" means any services or facilities on account of credit or debit cards, purchase cards, stored value cards or merchant services constituting a line of credit.

"*Borrowing Base*" means the sum of (i) 85% of the eligible accounts receivable of the Company and the other borrowers and guarantors under any revolving Credit Facility (collectively, the "ABL Loan Parties"), plus (ii) the lesser of (x) 85% of the net orderly liquidation value of eligible inventory of the ABL Loan Parties or (y) 70% of the book value of the ABL Loan Parties' eligible inventory (calculated at the lower of cost or market value), plus (iii) 100% of the cash and cash equivalents of the ABL Loan Parties on deposit in accounts secured by a first priority lien in favor of such Credit Facility.

"*Business Day*" means each day which is not a Legal Holiday.

"*Capital Stock*" means:

(1) in the case of a corporation, shares in the capital of such corporation;

(2) in the case of an association or business entity, any and all shares, interests, participations, rights or other equivalents (however designated) of capital stock;

(3) in the case of a partnership or limited liability company, partnership or membership interests (whether general or limited); and

(4) any other interest or participation that confers on a Person the right to receive a share of the profits and losses of, or distributions of assets of, the issuing Person.

"*Capitalized Lease Obligation*" means, at the time any determination thereof is to be made, the amount of the liability in respect of a capital lease that would at such time be required to be capitalized and reflected as a liability on a balance sheet (excluding the footnotes thereto) prepared in accordance with GAAP.

"*Capitalized Software Expenditures*" means, for any period, the aggregate of all expenditures (whether paid in cash or accrued as liabilities) by a Person and its Subsidiaries during such period in respect of licensed or purchased software or internally developed software and enhancements that, in conformity with GAAP, are or are required to be reflected as capitalized costs on the consolidated balance sheet of such Person and such Subsidiaries.

"*Cash Equivalents*" means:

(1) dollars;

(2) (a) pounds sterling, euro, or any national currency of any participating member state of the EMU; or

(b) in the case of any Foreign Subsidiary that is a Restricted Subsidiary, such local currencies held by them from time to time in the ordinary course of business;

(3) securities issued or directly and unconditionally guaranteed or insured as to interest and principal by the U.S. government or any agency or instrumentality thereof, the obligations of which are backed by the full faith and credit of the U.S., in each case maturing within one year after such date and, in each case, repurchase agreements and reverse repurchase agreements relating thereto;

(4) deposits, money market deposits, time deposit accounts, certificates of deposit or bankers' acceptances (or similar instruments) maturing within one year after such date, in each case with any bank or

trust company organized under, or authorized to operate as a bank or trust company under, the laws of the U.S., any state thereof or the District of Columbia and that has capital and surplus of not less than $100,000,000 and, in each case, repurchase agreements and reverse repurchase agreements relating thereto;

(5) commercial paper maturing within 24 months from the date of creation thereof and having, at the time of the acquisition thereof, a rating of at least A-2 from S&P or at least P-2 from Moody's (or, if at any time neither S&P nor Moody's shall be rating such obligations, an equivalent rating from another nationally recognized statistical rating agency);

(6) marketable short-term money market and similar securities having a rating of at least P-2 or A-2 from either Moody's or S&P, respectively (or reasonably equivalent ratings of another internationally recognized ratings agency) and in each case maturing within 24 months after the date of creation thereof and in a currency permitted under clause (1) or (2) above;

(7) readily marketable direct obligations issued by any state, commonwealth or territory of the United States or any political subdivision or taxing authority thereof having an Investment Grade Rating from either Moody's or S&P (or reasonably equivalent ratings of another internationally recognized rating agency) with maturities of 24 months or less from the date of acquisition;

(8) Indebtedness or Preferred Stock issued by Persons with a rating of "A" or higher from S&P or "A2" or higher from Moody's (or reasonably equivalent ratings of another internationally recognized ratings agency) with maturities of 24 months or less from the date of acquisition and in each case in a currency permitted under clause (1) or (2) above;

(9) Investments with average maturities of 12 months or less from the date of acquisition in money market funds rated AAA- (or the equivalent thereof) or better by S&P or Aaa3 (or the equivalent thereof) or better by Moody's and in each case in a currency permitted under clause (1) or (2) above;

(10) institutional money market funds registered under the Investment Company Act of 1940;

(11) in the case of any Foreign Subsidiaries, investments equivalent to those referred to in clauses (3) through (10) above denominated in foreign currencies customarily used by persons for cash management purposes in any jurisdiction outside the United States; and

(12) investment funds (including shares of any money market mutual fund) investing substantially all of their assets in securities of the types described in clauses (1) through (11) above.

Notwithstanding the foregoing, Cash Equivalents shall include amounts denominated in currencies other than those set forth in clauses (1) and (2) above, *provided* that such amounts are converted into any currency listed in clauses (1) and (2) as promptly as practicable and in any event within ten Business Days following the receipt of such amounts.

"*Cash Management Services*" means any of the following to the extent not constituting a line of credit: treasury and/or cash management services, including, without limitation, other netting services, overdraft protections, automated clearing-house arrangements, employee credit card programs, controlled disbursement services, ACH transactions, return items, interstate depository network services, foreign exchange facilities, deposit and other accounts and merchant services (including, for the avoidance of doubt, all "*Banking Services*" as defined in the Senior Credit Facilities).

"*Change of Control*" means the occurrence of any of the following after the Issue Date:

(1) the sale, lease or transfer, in one or a series of related transactions (other than by way of merger or consolidation), of all or substantially all of the assets of the Company and its Subsidiaries, taken as a whole, to any Person other than one or more Permitted Holders; or

(2) the Company becomes aware of (by way of a report or any other filing pursuant to Section 13(d) of the Exchange Act, proxy, vote, written notice or otherwise) the acquisition by (A) any Person (other than one or more Permitted Holders) or (B) Persons (other than one or more Permitted Holders) that are together

(1) a group (within the meaning of Section 13(d)(3) or Section 14(d)(2) of the Exchange Act, or any successor provision), or (2) are acting, for the purpose of acquiring, holding or disposing of securities (within the meaning of Rule 13d-5(b)(1) under the Exchange Act), as a group, in a single transaction or in a related series of transactions, by way of merger, consolidation or other business combination or purchase of beneficial ownership (within the meaning of Rule 13d-3 under the Exchange Act, or any successor provision) of more than 50% of the total voting power of the Voting Stock of the Company or any of its direct or indirect parent companies holding directly or indirectly 100% of the total voting power of the Voting Stock of the Company, other than in connection with any transaction or transactions in which the Company shall become a Subsidiary of a Parent Company.

"*Code*" means the Internal Revenue Code of 1986, as amended from time to time.

"*Collateral*" means all property subject or purported to be subject, from time to time, to a Lien under any Security Document.

"*Collateral Agent*" means Wells Fargo Bank, National Association, in its capacity as "Collateral Agent" under the Indenture and under the Security Documents to which it is a party and any successor or replacement thereto in such capacity.

"*Consolidated Depreciation and Amortization Expense*" means, with respect to any Person for any period, (a) the total amount of depreciation and amortization expense, including without limitation the amortization of intangible assets (including amortization of deferred launch costs), deferred financing fees and Capitalized Software Expenditures, of such Person and its Restricted Subsidiaries for such period on a consolidated basis and otherwise determined in accordance with GAAP and (b) the depreciation of assets of such Person and its subsidiaries acquired under Capital Leases, which is expensed in cost of goods sold and not included in depreciation and amortization under GAAP.

"*Consolidated Interest Expense*" means, with respect to any Person for any period, without duplication, the sum of:

(1) consolidated interest expense of such Person and its Restricted Subsidiaries paid or payable in respect of such period, to the extent such expense was deducted (and not added back) in computing Consolidated Net Income (including (a) amortization of original issue discount resulting from the issuance of Indebtedness at less than par and other bank, administrative agency (or trustee) and financing fees, (b) all commissions, discounts and other fees and charges owed with respect to letters of credit, bank guarantees, bankers' acceptances, ancillary facilities or any similar facility or financing and hedging agreements, (c) non-cash interest payments (but excluding any non-cash interest expense attributable to the movement in the mark to market valuation of Hedging Obligations or other derivative instruments pursuant to GAAP), (d) the interest component of Capitalized Lease Obligations, and (e) net payments, if any, made (less net payments, if any, received) pursuant to interest rate Hedging Obligations with respect to Indebtedness, and excluding (i) penalties and interest related to taxes, (ii) amortization of deferred financing fees, debt issuance costs, discounted liabilities, commissions, fees and expenses, (iii) any expensing of bridge, commitment and other financing fees, (iv) commissions, discounts, yield and other fees and charges (including any interest expense) related to any Receivables Facility and (v) any expense resulting from the discounting of Indebtedness in connection with the application of recapitalization accounting or, if applicable, acquisition accounting; *plus*

(2) consolidated capitalized interest of such Person and its Restricted Subsidiaries for such period, whether paid or accrued; *less*

(3) interest income of such Person and its Restricted Subsidiaries for such period.

For purposes of this definition, interest on a Capitalized Lease Obligation shall be deemed to accrue at an interest rate reasonably determined by the Company to be the rate of interest implicit in such Capitalized Lease Obligation in accordance with GAAP.

"*Consolidated Net Income*" means, with respect to any Person for any period, the aggregate of the Net Income, of such Person and its Restricted Subsidiaries for such period, on a consolidated basis, and otherwise determined in accordance with GAAP; *provided*, *however*, that, without duplication,

(1) any extraordinary, non-recurring or unusual gains, income, losses, expenses or charges (including costs of and payments of actual or prospective legal settlements, fines, judgments or orders), Transaction Expenses, severance, relocation costs, integration costs, consolidation and costs related to the opening, closure, relocation and/or consolidation of facilities, signing, retention or completion costs and bonuses, recruiting costs, recruiting and hiring bonuses, transition costs, costs incurred in connection with acquisitions (whether or not consummated) after the Issue Date (including integration costs), consulting fees, legal fees and taxes related to issuances of significant options and curtailments or modifications to pension and post-retirement employee benefit plans and corporate reorganization shall be excluded,

(2) the Net Income for such period shall not include the cumulative effect of a change in accounting principles during such period (including any impact of changes to inventory valuation methods, including changes in capitalization and variances and non-cash adjustments for LIFO accounting),

(3) any gains, charges or losses with respect to disposed, abandoned, closed or discontinued operations (other than assets held for sale) and any accretion or accrual of discounted liabilities and on the disposal of disposed, abandoned and discontinued operations and facilities, plans or distribution centers that have been closed during such period, shall be excluded,

(4) any gains, income, losses, expenses or charges (less all fees and expenses relating thereto) attributable to asset dispositions (including asset retirement costs) or returned surplus assets of any employee pension benefit plan other than in the ordinary course of business shall be excluded,

(5) the Net Income (or loss) for such period of any Person that is not a Subsidiary, or is an Unrestricted Subsidiary, or that is accounted for by the equity method of accounting, shall be excluded; *provided* that Consolidated Net Income of such Person shall be increased by the amount of dividends or distributions or other payments (including any ordinary course dividend, distribution or other payment) that are actually paid in cash (or to the extent converted into cash) to the referent Person or a Restricted Subsidiary thereof in respect of such period by such Person,

(6) solely for the purpose of determining the amount available for Restricted Payments under clause (3)(a) of the first paragraph of "Certain Covenants—Limitation on Restricted Payments," the Net Income for such period of any Restricted Subsidiary (other than any Guarantor) shall be excluded to the extent that the declaration or payment of dividends or similar distributions by that Restricted Subsidiary of its Net Income is not at the date of determination permitted without any prior governmental approval (which has not been obtained) or, directly or indirectly, by the operation of the terms of its charter or any agreement, instrument, judgment, decree, order, statute, rule, or governmental regulation applicable to that Restricted Subsidiary or its stockholders, unless such restriction with respect to the payment of dividends or similar distributions has been legally waived, *provided* that Consolidated Net Income will be increased by the amount of dividends or other distributions or other payments actually paid in cash (or to the extent converted into cash) to the referent Person or any of its Restricted Subsidiaries thereof in respect of such period, to the extent not already included therein,

(7) effects of adjustments (including the effects of such adjustments pushed down to such Person and its Restricted Subsidiaries) in the Person's consolidated financial statements pursuant to GAAP (including in the inventory, property and equipment, leases, rights, fee arrangements, software, goodwill, intangible assets, in-process research and development, deferred revenue, deferred rent, deferred trade incentives and other lease-related items, advance billings and debt line items thereof) resulting from the application of recapitalization accounting or acquisition method of accounting, as the case may be, in relation to the Transactions or any consummated acquisition or the amortization or write-off or removal of revenue otherwise recognizable on any amounts thereof, net of taxes, shall be excluded or added back in the case of lost revenue,

(8) any income (loss) (less all fees and expenses or charges related thereto) from the early extinguishment or conversion of Indebtedness or Hedging Obligations or other derivative instruments shall be excluded,

(9) any (i) goodwill or other asset impairment charges, write-offs or write-downs or (ii) amortization of intangibles shall be excluded,

(10) any taxes based on income, profits, or capital that are not paid or payable currently in cash (i.e., non-cash book tax amounts) shall be excluded,

(11) any non-cash compensation charge, cost, expense, accrual or reserve including any such charge, cost, expense, accrual or reserve arising from the grant of stock appreciation or similar rights, stock options, restricted stock or other equity incentive programs, and any cash charges associated with the rollover, acceleration or payment of management equity in connection with the Transactions shall be excluded,

(12) any fees, commissions and expenses incurred during such period, or any amortization or write-off thereof for such period in connection with any acquisition, Investment, Asset Sale, issuance or repayment of Indebtedness, issuance of Equity Interests, refinancing transaction or amendment or modification of any debt instrument (in each case, including any such transaction consummated prior to the Issue Date and any such transaction undertaken but not completed) and any charges or non-recurring merger costs incurred during such period as a result of any such transaction shall be excluded,

(13) accruals and reserves that are established or adjusted within twelve months after the Issue Date that are so required to be established or adjusted as a result of the Transactions in accordance with GAAP shall be excluded,

(14) any unrealized or realized net gain or loss resulting from currency translation or transaction gains or losses impacting net income (including currency remeasurements of Indebtedness), any net loss or gain resulting from hedge agreements for currency exchange risk associated with the above or any other currency related risk and those resulting from intercompany Indebtedness) and any foreign currency translation or transaction gains or losses shall be excluded,

(15) any unrealized net gains and losses resulting from Hedging Obligations and the application of Accounting Standards Codification #815 shall be excluded,

(16) to the extent covered by insurance and actually reimbursed, or, so long as the Company has made a good faith determination that it expects to receive reimbursement within 365 days (with a deduction for any amount so added back to the extent not so reimbursed within such 365 days), (x) the amount of any fee, cost, expense or reserve with respect to liability or casualty events or business interruption shall be excluded, and (y) proceeds of such insurance in an amount representing the earnings for the applicable period that such proceeds are intended to replace shall be included, and

(17) to the extent actually reimbursed or reimbursable by third parties pursuant to indemnification or reimbursement provisions or similar agreements or insurance, fees, costs, expenses or reserves incurred to the extent covered by indemnification provisions in any agreement in connection with any sale of Capital Stock, acquisition, Permitted Investment, Restricted Payment, Asset Sale, disposition, recapitalization, mergers, consolidations or amalgamations, option buyouts or incurrences, repayments, refinancings, amendments or modifications of Indebtedness (in each case, including any such transaction consummated prior to the Issue Date) shall be excluded.

Notwithstanding the foregoing, for the purpose of the covenant described under “Certain Covenants—Limitation on Restricted Payments” only (other than clause (3)(d) of the first paragraph thereof), there shall be excluded from Consolidated Net Income any income arising from any sale or other disposition of Restricted Investments made by the Company and its Restricted Subsidiaries, any repurchases and redemptions of Restricted Investments from the Company and its Restricted Subsidiaries, any repayments of loans and advances which constitute Restricted Investments by the Company or any of its Restricted Subsidiaries, any sale of the stock of an Unrestricted Subsidiary or any distribution or dividend from an Unrestricted Subsidiary, in each case only to the extent such amounts increase the amount of Restricted Payments permitted under such covenant pursuant to clause (3)(d) of the first paragraph thereof or clause (7)(b) of the second paragraph thereof.

"*Consolidated First Lien Secured Debt Ratio*" means, as of any date of determination, the ratio of the sum of (1) (a) Consolidated Total Indebtedness of such Person and its Restricted Subsidiaries constituting ABL Obligations or Pari Passu Obligations as of such date of determination and (b) the Reserved Indebtedness Amount constituting ABL Obligations or Pari Passu Obligations as of such date of determination to (2) EBITDA of such Person and its Restricted Subsidiaries, in each case with such *pro forma* adjustments to Consolidated Total Indebtedness and EBITDA as are appropriate and consistent with the *pro forma* adjustment provisions set forth in the definition of Fixed Charge Coverage Ratio.

"*Consolidated Secured Debt Ratio*" means, as of any date of determination, the ratio of the sum of (1) (a) Consolidated Total Indebtedness of such Person and its Restricted Subsidiaries that is secured by Liens as of such date of determination and (b) the Reserved Indebtedness Amount secured by a Lien as of such date of determination to (2) EBITDA of such Person and its Restricted Subsidiaries, in each case with such *pro forma* adjustments to Consolidated Total Indebtedness and EBITDA as are appropriate and consistent with the *pro forma* adjustment provisions set forth in the definition of Fixed Charge Coverage Ratio.

"*Consolidated Total Assets*" means, at any date, all amounts that would, in conformity with GAAP, be set forth opposite the caption "total assets" (or like caption) on a consolidated balance sheet of the Company and its Subsidiaries at such date, determined with such pro forma adjustments as are appropriate and consistent with the pro forma adjustment provisions set forth in the definition of Fixed Charge Coverage Ratio.

"*Consolidated Total Leverage Ratio*" means, as of any date of determination, the ratio of the sum of (1)(a) Consolidated Total Indebtedness of such Person and its Restricted Subsidiaries as of such date of determination and (b) the Reserved Indebtedness Amount as of such date of determination to (2) EBITDA of such Person and its Restricted Subsidiaries, in each case with such *pro forma* adjustments to Consolidated Total Indebtedness and EBITDA as are appropriate and consistent with the *pro forma* adjustment provisions set forth in the definition of Fixed Charge Coverage Ratio.

"*Consolidated Total Indebtedness*" means, as to any Person as at any date of determination, an amount equal to (x) the sum of (1) the aggregate amount of all outstanding Indebtedness (other than Indebtedness incurred in connection with any IRB Transaction permitted under clause (29) of the second paragraph of "Certain Covenants—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock") of such Person and its Restricted Subsidiaries on a consolidated basis consisting of Indebtedness for borrowed money, Obligations in respect of Capitalized Lease Obligations and debt obligations evidenced by promissory notes and similar instruments and (2) the aggregate amount of all outstanding Disqualified Stock of such Person and all Preferred Stock of its Restricted Subsidiaries on a consolidated basis, with the amount of such Disqualified Stock and Preferred Stock equal to the greater of their respective voluntary or involuntary liquidation preferences and maximum fixed repurchase prices, in each case determined on a consolidated basis in accordance with GAAP, less unrestricted cash and Cash Equivalents included on the consolidated balance sheet of such Person and any Restricted Subsidiaries as of such date; *provided* that "Consolidated Total Indebtedness" shall exclude any obligation, liability or indebtedness of such Person if, upon or prior to the maturity date thereof, such Person has irrevocably deposited with the proper Person in trust or escrow the necessary funds (or evidences of indebtedness) for the payment, redemption or satisfaction of such obligation, liability or indebtedness, and thereafter such funds and evidences of such obligation, liability or indebtedness or other security so deposited are not included in unrestricted cash and Cash Equivalents, in accordance with GAAP. For purposes hereof, the "maximum fixed repurchase price" of any Disqualified Stock or Preferred Stock that does not have a fixed repurchase price shall be calculated in accordance with the terms of such Disqualified Stock or Preferred Stock as if such Disqualified Stock or Preferred Stock were purchased on any date on which Consolidated Total Indebtedness shall be required to be determined pursuant to the Indenture, and if such price is based upon, or measured by, the fair market value of such Disqualified Stock or Preferred Stock, such fair market value shall be determined reasonably and in good faith by the Company.

"*Contingent Obligations*" means, with respect to any Person, any obligation of such Person guaranteeing any leases, dividends or other obligations that do not constitute Indebtedness ("*primary obligations*") of any other Person (the "*primary obligor*") in any manner, whether directly or indirectly, including, without limitation, any obligation of such Person, whether or not contingent,

(1) to purchase any such primary obligation or any property constituting direct or indirect security therefor,

(2) to advance or supply funds

(a) for the purchase or payment of any such primary obligation, or

(b) to maintain working capital or equity capital of the primary obligor or otherwise to maintain the net worth or solvency of the primary obligor, or

(3) to purchase property, securities or services primarily for the purpose of assuring the owner of any such primary obligation of the ability of the primary obligor to make payment of such primary obligation against loss in respect thereof.

"*Credit Facilities*" means, with respect to the Company or any Restricted Subsidiary, one or more debt facilities, including the Senior Credit Facilities, or other financing arrangements (including, without limitation, commercial paper facilities with banks or other institutional lenders or investors or indentures) providing for revolving credit loans, term loans, letters of credit or other long-term indebtedness, including any notes, mortgages, guarantees, collateral documents, instruments and agreements executed in connection therewith, and any amendments, supplements, modifications, extensions, renewals, restatements, amendments and restatements, or refundings thereof and any indentures or credit facilities or commercial paper facilities with banks or other institutional lenders or investors that refinance any part of the loans, notes or other securities, other credit facilities or commitments thereunder, including any such refinancing facility or indenture that increases the amount permitted to be borrowed thereunder or alters the maturity thereof (provided that such increase in borrowings is permitted under "Certain Covenants—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock") or adds Restricted Subsidiaries as additional borrowers or guarantors thereunder and whether by the same or any other agent, lender or group of lenders.

"*Default*" means any event that is, or with the passage of time or the giving of notice or both would be, an Event of Default.

"*Designated Non-cash Consideration*" means the fair market value of non-cash consideration received by the Company or a Restricted Subsidiary in connection with an Asset Sale that is so designated as Designated Non-cash Consideration pursuant to an Officer's Certificate, setting forth the basis of such valuation, less the amount of Cash Equivalents received in connection with a subsequent sale, redemption, repurchase of, or collection or payment on, such Designated Non-cash Consideration.

"*Designated Preferred Stock*" means Preferred Stock of the Company, any Restricted Subsidiary or any direct or indirect parent company thereof (in each case other than Disqualified Stock) that is issued for cash (other than to a Restricted Subsidiary or an employee stock ownership plan or trust established by the Company or any of its Subsidiaries) and is so designated as Designated Preferred Stock, pursuant to an Officer's Certificate, on the issuance date thereof, the cash proceeds of which are excluded from the calculation set forth in clause (3) of the first paragraph of the "Certain Covenants—Limitation on Restricted Payments" covenant.

"*Disqualified Stock*" means, with respect to any Person, any Capital Stock of such Person which, by its terms, or by the terms of any security into which it is convertible or for which it is redeemable or exchangeable, or upon the happening of any event, matures or is mandatorily redeemable (other than solely as a result of a change of control or asset sale) pursuant to a sinking fund obligation or otherwise or is redeemable at the option of the holder thereof (other than solely as a result of a change of control or asset sale), in whole or in part, in each case prior to the date 91 days after the earlier of the maturity date of the Notes or the date the Notes are no longer outstanding; *provided, however,* that if such Capital Stock is issued to any current or former employee or to any plan for the benefit of employees, directors, officers, members of management or consultants of the Company or its Subsidiaries or by any such plan to such employees, directors, officers, members or management or consultants, such Capital Stock shall not constitute Disqualified Stock solely because it may be required to be repurchased by the Company or its Subsidiaries in order to satisfy applicable statutory or regulatory obligations or as a result of such employee's, director's, officer's, management member's or consultant's termination, death or disability.

"*Domestic Subsidiary*" means a Subsidiary incorporated or organized under the laws of the United States of America, any State thereof or the District of Columbia.

"*EBITDA*" means, with respect to any Person for any period, the Consolidated Net Income of such Person for such period

(1) increased (without duplication) by:

(a) provision for taxes based on income or profits or capital (including pursuant to any tax sharing or tax distribution arrangements), including, without limitation, federal, state, local, provincial, foreign, excise, franchise, property and similar taxes and foreign withholding taxes and foreign unreimbursed value added taxes (including, in each case, penalties and interest related to such taxes or arising from tax examinations) of or with respect to such Person paid or accrued during such period deducted (and not added back) in computing Consolidated Net Income; *plus*

(b) Fixed Charges of such Person for such period plus bank fees and costs of surety bonds in connection with financing activities, plus amounts excluded from Consolidated Interest Expense as set forth in clauses (i), (ii), (iii), (iv) and (v) in the definition thereof, to the extent the same were deducted (and not added back) in calculating such Consolidated Net Income plus commissions, discounts and other fees and charges owed with respect to letters of credit, bankers' acceptance or any similar facilities or financing and Hedging Obligations; *plus*

(c) Consolidated Depreciation and Amortization Expense of such Person for such period to the extent the same was deducted (and not added back) in computing Consolidated Net Income; *plus*

(d) (i) Transaction Expenses and (ii) transaction fees, costs and expenses (including rationalization, legal, tax and structuring fees, costs and expenses) incurred in connection with the consummation of any transaction (or any transaction proposed and not consummated) permitted under the Indenture, including any Equity Offering, Permitted Investment, Restricted Payments, acquisitions, dispositions, recapitalizations, mergers, consolidations or amalgamations, option buyouts or incurrences, repayments, refinancings, amendments or modifications of Indebtedness (including any amortization or write-off of debt issuance or deferred financings costs, premiums and prepayment penalties) or similar transactions) or any Qualifying IPO, including (x) such fees, expenses or charges related to the offering of the Notes, the Unsecured Notes, the Senior Credit Facilities and the Receivables Facility, (y) any amendment or other modification of the Notes, the Unsecured Notes, any Credit Facility and the Receivables Facility and (z) commissions, discounts, yield and other fees and charges (including any interest expense related to any Receivables Facility), in each case, deducted (and not added back) in computing Consolidated Net Income; *plus*

(e) the amount of any costs, charges, accruals, reserves or expenses attributable to the undertaking and/or implementation of cost savings (including sourcing), operating expense reductions, operating improvements, product margin synergies and product cost and other synergies and similar initiatives, integration, transition, reconstruction, decommissioning, recommissioning or reconfiguration of fixed assets for alternative uses, restructuring costs (including those related to tax restructurings), charges, accruals, reserves or expenses attributable to the undertaking and/or implementation of cost savings initiatives, operating expense reductions, business optimization and other restructuring costs, charges, accruals, reserves and expenses (including, without limitation, inventory optimization programs, software development costs, the opening, closure, relocation and/or consolidation of facilities and plants, unused warehouse space costs, costs related to entry into new markets, unused warehouse space costs, and consulting and other professional fees, signing or retention costs, retention or completion charges or bonuses, relocation expenses, severance payments, curtailments and modifications to or losses on settlement of pension and post-retirement employee benefit plans, excess pension charges, pension related charges under FASB ASC 715, accretion of asset retirement obligations in accordance with FASB ASC 410, contract termination costs, future lease commitments, new system design and implementation costs and project startup costs and expenses attributable to the implementation of cost savings initiatives and professional and consulting fees incurred in connection with any of the foregoing); *plus*

(f) any other non-cash charges or losses, including (i) any write offs or write downs, (ii) the vesting of warrants and stock options and other equity based awards compensation, (iii) losses on sales, disposals or abandonment of, or any impairment charges or asset write off related to, intangible assets, long-lived assets and investments in debt and equity securities, (iv) all losses from investments recorded using the equity method (other than to the extent funded with cash) and (v) other non-cash charges, non-cash expenses or non-cash losses reducing Consolidated Net Income for such period (provided that if any such non-cash charges, expenses or losses represent an accrual or reserve for potential cash items in any future period, the cash payment in respect thereof in such future period shall be subtracted from EBITDA to such extent, and excluding amortization of a prepaid cash item that was paid in a prior period); *plus*

(g) the amount of any minority interest expense consisting of Subsidiary income attributable to minority equity interests of third parties in any non-Wholly-Owned Subsidiary deducted (and not added back) in such period in calculating Consolidated Net Income; *plus*

(h) the amount of management, monitoring, consulting, transaction and advisory fees (including termination fees) and related indemnities and expenses paid or accrued in such period to the Permitted Holders or other persons with a similar interest in the Company or its direct or indirect parent companies to the extent otherwise permitted under "Certain Covenants—Transactions with Affiliates" and deducted (and not added back) in such period in computing Consolidated Net Income; *plus*

(i) expected cost savings (including sourcing), operating expense reductions, other operating improvements and expense reductions and product margin synergies and product cost and other synergies projected by the Company in good faith to be realized as a result (i) the Transactions, and (iii) specified actions taken or to be taken by the Company or any of its Restricted Subsidiaries (calculated on a *pro forma* basis as though such cost savings, operating improvements and expense reductions and synergies had been realized on the first day of such period and as if such cost savings, operating improvements and expense reductions and synergies were realized during the entirety of such period), net of the amount of actual benefits realized during such period from such actions; *provided* that such cost savings, expense reductions, operating improvements and synergies are reasonably identifiable and factually supportable and are reasonably anticipated to be realized within 24 months after the change, acquisition or disposition that is expected to result in such cost savings, expense reductions, or operating improvements and other synergies (which adjustments may be incremental to *pro forma* adjustments made pursuant to the definition of "Fixed Charge Coverage Ratio"); *plus*

(j) the amount of loss on sale of receivables and related assets to the Receivables Subsidiary in connection with a Receivables Facility; *plus*

(k) (i) any charges, costs, expenses, accruals or reserves incurred by the Company or a Restricted Subsidiary pursuant to any management equity plan, profits interest or stock option plan or any other management or employee benefit plan or agreement, pension plan or other long-term or post-employment benefit, any stock subscription or shareholder agreement or any distributor equity plan or agreement, including any fair value adjustments that may be required under liquidity puts for such arrangements, (ii) any charges, costs, expenses, accruals or reserves in connection with the rollover, acceleration or payout of Capital Stock held by management of the Company, any direct or indirect parent company and/or any of its subsidiaries, in each case to the extent that such charges, costs, expenses, accruals or reserves are funded with cash proceeds contributed to the capital of the Company as a result of capital contribution or as a result of the sale or issuance of Capital Stock (other than Disqualified Stock) of the Company solely to the extent that such net cash proceeds are excluded from the calculation set forth in clause (3) of the first paragraph under "Certain Covenants—Limitation on Restricted Payments" and (iii) any charges, costs, or expenses incurred in respect of bonus payments pursuant to employee incentive programs (including any bonus plans) that exceed 100% of the total amount projected for such payments, *plus*

(l) cash receipts (or any netting arrangements resulting in reduced cash expenditures) not representing EBITDA or Net Income in any period to the extent non-cash gains relating to such income were deducted in the calculation of EBITDA pursuant to clause (2) below for any previous period and not added back; *plus*

(m) earn-out and contingent consideration obligations incurred or accrued in connection with any acquisition or other Permitted Investment and paid or accrued during such period and on similar acquisitions and Permitted Investments completed prior to the Issue Date, *plus*

(n) with respect to any joint venture that is not a Restricted Subsidiary, an amount equal to the proportion of those items described in clauses (a) to (c) above relating to such joint venture corresponding to such Person's and its Restricted Subsidiaries' proportionate share of such joint venture's Consolidated Net Income (determined as if such joint venture were a Restricted Subsidiary), *plus*

(o) costs associated with, or in anticipation of, or preparation for, compliance with the requirements of the Sarbanes-Oxley Act of 2002 and the rules and regulations promulgated in connection therewith and Public Company Costs, *plus*

(p) at the option of the Company, (A) the excess of GAAP rent expense over actual cash rent paid, including the benefit of lease incentives (in the case of a charge) during such period due to the use of straight line rent or the application of fair value adjustments made as a result of recapitalization or purchase accounting, in each case, for GAAP purposes, (B) the non-cash amortization of tenant allowances and (C) the cash portion of sublease rentals received by such Person; provided that, in each case, if any such non-cash charge represents an accrual or reserve for potential cash items in any future period, such Person may determine not to add back such non-cash charge in the current period, *plus*

(q) the Consolidated Net Income attributable to the percentage ownership of any joint venture that is accounted for under the equity method attributable to the Company, *plus*

(r) the amount of travel expenses, payroll taxes, indemnification payments, director's fees and any other charges, costs, expenses, accruals or reserves incurred in connection with, or amounts payable to, any director of the board of the Company or its parent entities in connection with such director serving as a member of such board of directors and performing his or her duties in respect thereof, *plus*

(s) Synthetic Lease Obligations, to the extent deducted as an expense in such period.

(2) decreased (without duplication) by:

(a) non-cash gains increasing Consolidated Net Income of such Person for such period, excluding any non-cash gains to the extent they represent the reversal of an accrual or reserve for a potential cash item that reduced EBITDA in any prior period and any non-cash gains with respect to cash actually received in a prior period so long as such cash did not increase EBITDA in such prior period, *plus*

(b) any net income from disposed or discontinued operations; and

(3) increased or decreased by (without duplication), as applicable, any adjustments resulting from the application of ASC Topic Number 460 (Guarantees).

For purposes of testing the covenants under the Indenture in connection with any transactions, the EBITDA of the Company and the Restricted Subsidiaries shall be further adjusted to reflect such pro forma adjustments as are appropriate and consistent with the pro forma adjustment provisions set forth in the definition of Fixed Charge Coverage Ratio (other than as set forth in the proviso of the first paragraph of such definition).

"*EMU*" means economic and monetary union as contemplated in the Treaty on European Union.

"*Equity Interests*" means Capital Stock and all warrants, options or other rights to acquire Capital Stock, but excluding any debt security that is convertible into, or exchangeable for, Capital Stock.

"*Equity Offering*" means any public or private sale of common stock or Preferred Stock of the Company or any of its direct or indirect parent companies (excluding Disqualified Stock), other than:

(1) public offerings with respect to the Company's or any direct or indirect parent company's common stock registered on Form S-8;

(2) issuances to any Subsidiary of the Company; and

(3) any such public or private sale that constitutes an Excluded Contribution.

"*euro*" means the single currency of participating member states of the EMU.

"*Exchange Act*" means the Securities Exchange Act of 1934, as amended, and the rules and regulations of the SEC promulgated thereunder.

"*Excluded Contribution*" means net cash proceeds, marketable securities or Qualified Proceeds received by the Company after the Issue Date from:

(1) contributions to its common equity capital, and

(2) the sale (other than to a Subsidiary of the Company or to any management equity plan or stock option plan or any other management or employee benefit plan or agreement of the Company) of Capital Stock (other than Disqualified Stock and Designated Preferred Stock) of the Company, in each case designated as Excluded Contributions pursuant to an Officer's Certificate on or promptly after the date such capital contributions are made or the date such Equity Interests are sold, as the case may be, which are excluded from the calculation set forth in clause (3) of the first paragraph under "Certain Covenants—Limitation on Restricted Payments."

"*Existing Senior Notes*" means the 8.500% Senior Notes due 2022 issued by Eco Services Operations LLC, pursuant to an indenture, dated as of October 24, 2014, by and among Eco Services Operations LLC and Eco Finance Corp. as issuers and Wilmington Trust, National Association, as Trustee.

"*Fixed Charge Coverage Ratio*" means, with respect to any Person for any period, the ratio (1) EBITDA of such Person and its Restricted Subsidiaries for such period to (2) the Fixed Charges of such Person and its Restricted Subsidiaries the most recently ended four fiscal quarters for which internal financial statements are available immediately preceding the Calculation Date. In the event that such Person or any of its Restricted Subsidiaries incurs, assumes, guarantees, repurchases, redeems, retires or extinguishes any Indebtedness (other than Indebtedness under any revolving credit facility or revolving advances under any Receivables Facility, in which case interest expense shall be computed based upon the average daily balance of such Indebtedness during such applicable period) or issues, repurchases or redeems Disqualified Stock or Preferred Stock subsequent to the commencement of the period for which the Fixed Charge Coverage Ratio is being calculated but prior to or simultaneously with the event for which the calculation of the Fixed Charge Coverage Ratio is made (the "*Fixed Charge Coverage Ratio Calculation Date*"), then the Fixed Charge Coverage Ratio shall be calculated giving *pro forma* effect to such incurrence, assumption, guarantee, repurchase, redemption, retirement or extinguishment of Indebtedness, or such issuance, repurchase or redemption of Disqualified Stock or Preferred Stock, as if the same had occurred at the beginning of the applicable four-quarter period for which internal financial statements are available; *provided, however*, that the *pro forma* calculation shall not give any effect to any Indebtedness incurred on such determination date pursuant to the provisions described in the second paragraph under "—Certain Covenants—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock."

For purposes of making the computation referred to above, Investments, acquisitions, dispositions, amalgamations, mergers (including the Transactions), consolidations and discontinued operations (as determined in accordance with GAAP), Subsidiary designations and any operational changes or cost savings initiatives that the Company or any of its Restricted Subsidiaries has determined to make/or has made during the four-quarter reference period or subsequent to such reference period and on or prior to or simultaneously with the Fixed Charge Coverage Ratio Calculation Date shall be calculated on a *pro forma* basis assuming that all such Investments, acquisitions, dispositions, amalgamations, mergers, consolidations, discontinued operations and operational changes (and the change in any associated fixed charge obligations and the change in EBITDA resulting therefrom) had occurred on the first day of the four-quarter reference period. If since the beginning of such period any Person that subsequently became a Restricted Subsidiary or was merged, amalgamated or consolidated with or into the Company or any of its Restricted Subsidiaries since the beginning of such period shall have made any Investment, acquisition, disposition, amalgamation, merger, consolidation, discontinued operation or operational change that would have required adjustment pursuant to this definition, then the Fixed Charge Coverage Ratio shall be calculated giving *pro forma* effect thereto for such period as if such Investment, acquisition, disposition, discontinued operation, merger, amalgamation, consolidation or operational change had occurred at the beginning of the applicable four-quarter period.

For purposes of this definition, whenever *pro forma* effect is to be given to an Investment, acquisition, disposition, amalgamation, merger (including the Transactions), consolidation, discontinued operation or operational change, the *pro forma* calculations shall be made in good faith by a responsible financial or accounting officer of the Company (and may include (to the extent not already included in EBITDA) (a) cost savings (including sourcing), operating expense reductions and other operating improvements or synergies resulting from such Investment, acquisition, disposition, amalgamation, merger, consolidation (including the Transactions), discontinued operation or operational change, which is being given *pro forma* effect that have been or are expected to be realized and reasonably identifiable and factually supportable and are reasonably anticipated to be realized within 24 months after the change, acquisition or disposition that is expected to result in such cost savings, expense reductions, or operating improvements and other synergies and (b) adjustments of the nature used in connection with the calculation of "Adjusted EBITDA" and "Pro Forma Combined Adjusted EBITDA" as set forth in footnote (2) to "Summary—Summary Historical Financial and Unaudited Pro Forma Condensed Combined Financial and Other Data" in this offering circular. If any Indebtedness bears a floating rate of interest and is being given *pro forma* effect, the interest on such Indebtedness shall be calculated as if the rate in effect on the Fixed Charge Coverage Ratio Calculation Date had been the applicable rate for the entire period (taking into account any Hedging Obligations applicable to such Indebtedness). Interest on a Capitalized Lease Obligation shall be deemed to accrue at an interest rate reasonably determined by a responsible financial or accounting officer of the Company to be the rate of interest implicit in such Capitalized Lease Obligation in accordance with GAAP. Interest on Indebtedness that may optionally be determined at an interest rate based upon a factor of a prime or similar rate, a eurocurrency interbank offered rate, or other rate, shall be deemed to have been based upon the rate actually chosen, or, if none, then based upon such optional rate chosen as the Company may designate. Interest on any Indebtedness under a revolving credit facility computed on a *pro forma* basis shall be computed based upon the average daily balance of such indebtedness during the applicable period.

For purposes of this definition, any amount in a currency other than U.S. dollars will be converted to U.S. dollars based on the average exchange rate for such currency for the most recent twelve month period immediately prior to the date of determination in a manner consistent with GAAP.

"*Fixed Charges*" means, with respect to any Person for any period, the sum, without duplication, of:

(1) Consolidated Interest Expense of such Person for such period;

(2) all cash dividends or other distributions paid (excluding items eliminated in consolidation) on any series of Preferred Stock during such period; and

(3) all cash dividends or other distributions paid (excluding items eliminated in consolidation) on any series of Disqualified Stock during such period.

"*Foreign Subsidiary*" means any Subsidiary that is not a Domestic Subsidiary.

"*GAAP*" means generally accepted accounting principles in the United States which are in effect on the Issue Date, except for any reports required to be delivered under the covenant described above under "—Certain Covenants "—Reports and Other Information," which shall be prepared in accordance with GAAP in effect on the date thereof. At any time after the Issue Date, the Company may irrevocably elect to apply IFRS accounting principles in lieu of GAAP, and upon any such election, references herein to GAAP shall thereafter be construed to mean IFRS pursuant to the previous sentence.

"*Government Securities*" means securities that are:

(1) direct obligations of the United States of America for the timely payment of which its full faith and credit is pledged; or

(2) obligations of a Person controlled or supervised by and acting as an agency or instrumentality of the United States of America the timely payment of which is unconditionally guaranteed as a full faith and credit obligation by the United States of America, which, in either case, are not callable or redeemable at the option of the issuers thereof, and shall also include a depository receipt issued by a bank (as defined in Section 3(a)(2) of the Securities Act), as custodian with respect to any such Government Securities or a specific payment of principal of or interest on any such Government Securities held by such custodian for the account of the holder of such depository receipt; provided that (except as required by law) such custodian is not authorized to make any deduction from the amount payable to the holder of such depository receipt from any amount received by the custodian in respect of the Government Securities or the specific payment of principal of or interest on the Government Securities evidenced by such depository receipt.

"*Governmental Authority*" means any federal, state, municipal, national or other government, governmental department, commission, board, bureau, court, agency or instrumentality or political subdivision thereof or any entity or officer exercising executive, legislative, judicial, regulatory or administrative functions of or pertaining to any government or any court (including any supra-national body exercising such powers or functions, such as the European Union or the European Central Bank), in each case whether associated with a state or locality of the U.S., the U.S., or a foreign government.

"*guarantee*" means a guarantee (other than by endorsement of negotiable instruments for collection in the ordinary course of business), direct or indirect, in any manner (including letters of credit and reimbursement agreements in respect thereof), of all or any part of any Indebtedness or other obligations.

"*Guarantee*" means the guarantee by any Guarantor of the Issuer's Obligations under the Indenture and the Notes.

"*Guarantor*" means each Person that Guarantees the Notes in accordance with the terms of the Indenture.

"*Hedging Obligations*" means, with respect to any Person, the obligations of such Person under any interest rate swap agreement, interest rate cap agreement, interest rate collar agreement, commodity swap agreement, commodity cap agreement, commodity collar agreement, foreign exchange contract, currency swap agreement or similar agreement providing for the transfer or mitigation of interest rate, commodity price or currency risks either generally or under specific contingencies (including, for the avoidance of doubt, under all "*Hedging Obligations*" as defined in the Senior Credit Facilities).

"*Holder*" means the Person in whose name a Note is registered on the registrar's books.

"*Holdings*" means PQ Holdings Inc.

"*IFRS*" means international accounting standards within the meaning of IAS Regulation 1606/2002, as in effect from time to time, to the extent relevant to the applicable financial statements.

"*Indebtedness*" means, with respect to any Person, without duplication:

(1) any indebtedness (including principal and premium) of such Person, whether or not contingent:

(a) in respect of borrowed money;

(b) evidenced by bonds, notes, debentures or similar instruments or letters of credit or bankers' acceptances (or, without duplication, reimbursement agreements in respect thereof);

(c) representing the balance deferred and unpaid of the purchase price of any property (including Capitalized Lease Obligations), which purchase price is (A) due more than six months from the date of incurrence of the obligation in respect thereof or (B) evidenced by a note or similar written instrument, except (i) any such balance that constitutes an obligation in respect of a commercial letter of credit, a trade payable or similar obligation, in each case accrued in the ordinary course of business, (ii) any earn-out obligations until such obligation becomes a liability on the balance sheet of such Person in accordance with GAAP and is not paid within 30 days of becoming due and payable and (iii) any such obligations under ERISA or liabilities associated with customer prepayments and deposits; or

(d) representing any Hedging Obligations;

if and to the extent that any of the foregoing Indebtedness (other than letters of credit (other than commercial letters of credit) and Hedging Obligations) would appear as a liability upon a balance sheet (excluding the footnotes thereto) of such Person prepared in accordance with GAAP;

(2) to the extent not otherwise included, any obligation by such Person to be liable for, or to pay, as obligor, guarantor or otherwise, on the obligations of the type referred to in clause (1) of a third Person (whether or not such items would appear upon the balance sheet of such obligor or guarantor), other than by endorsement of negotiable instruments for collection in the ordinary course of business; and

(3) to the extent not otherwise included, the obligations of the type referred to in clause (1) of a third Person secured by a Lien on any asset owned by such first Person, whether or not such Indebtedness is assumed by such first Person; *provided, however,* that the amount of such Indebtedness will be the lesser of: (i) the fair market value of such asset at such date of determination, and (ii) the amount of such Indebtedness of such other Person;

provided, however, that notwithstanding the foregoing, Indebtedness shall be deemed not to include (1) Contingent Obligations incurred in the ordinary course of business and (2) deferred or prepaid revenues *provided, further, that in no event shall obligations under any Hedging Obligations be deemed "Indebtedness" for any calculation of a financial ratio under the Indenture.*

Notwithstanding anything in the Indenture to the contrary, Indebtedness shall not include, and shall be calculated without giving effect to, the effects of Accounting Standards Codification Topic No. 815 and related interpretations to the extent such effects would otherwise increase or decrease an amount of Indebtedness for any purpose under the Indenture as a result of accounting for any embedded derivatives created by the terms of such

Indebtedness; and any such amounts that would have constituted Indebtedness under the Indenture but for the application of this sentence shall not be deemed an incurrence of Indebtedness under the Indenture.

"Independent Financial Advisor" means an accounting, appraisal, investment banking firm or consultant, in each case of nationally recognized standing that is, in the good faith judgment of the Company, qualified to perform the task for which it has been engaged.

"*Initial Purchasers*" Citigroup Global Markets Inc., Credit Suisse Securities (USA) LLC, Morgan Stanley & Co. LLC, J.P. Morgan Securities LLC., Jefferies LLC, Goldman, Sachs & Co, Deutsche Bank Securities Inc and KeyBanc Capital Markets Inc.

"*Intercreditor Agreements*" means, collectively, the Pari Passu Intercreditor Agreement and/or the ABL Intercreditor Agreement and any other intercreditor agreement, entered into by the Collateral Agent pursuant to which the Liens securing any Obligations (other than Obligations under the Notes and the Guarantees) are subordinated to the Liens securing the Notes and the Guarantees.

"*Investment Grade Rating*" means a rating equal to or higher than Baa3 (or the equivalent) by Moody's and BBB- (or the equivalent) by S&P, or, in either case, an equivalent rating by any other Rating Agency.

"*Investment Grade Securities*" means:

(1) securities issued or directly and fully guaranteed or insured by the United States government or any agency or instrumentality thereof (other than Cash Equivalents);

(2) debt securities or debt instruments with an Investment Grade Rating, but excluding any debt securities or instruments constituting loans or advances among the Company and its Subsidiaries;

(3) investments in any fund that invests exclusively in investments of the type described in clauses (1) and (2) which fund may also hold immaterial amounts of cash pending investment or distribution; and

(4) corresponding instruments in countries other than the United States customarily utilized for high quality investments.

"*Investments*" means, with respect to any Person, all investments by such Person in other Persons (including Affiliates) in the form of loans (including guarantees), advances or capital contributions (excluding accounts receivable, trade credit, advances to customers, commission, travel and similar advances to officers, directors, distributors, consultants and employees, in each case made in the ordinary course of business), purchases or other acquisitions for consideration of Indebtedness, Equity Interests or other securities issued by any other Person and investments that are required by GAAP to be classified on the balance sheet (excluding the footnotes thereto) of the Company in the same manner as the other investments included in this definition to the extent such transactions involve the transfer of cash or other property. The amount of any Investment shall be deemed to be the amount actually invested, without adjustment for subsequent increases or decreases in value or any write-downs or write-offs, but giving effect to any repayments thereof in the form of loans and any return on capital or return on Investment in the case of equity Investments (whether as a distribution, dividend, redemption or sale but not in excess of the amount of such Investment). For purposes of the definition of "Unrestricted Subsidiary" and the covenant described under "Certain Covenants—Limitation on Restricted Payments":

(1) "Investments" shall include the portion (proportionate to the Company's equity interest in such Subsidiary) of the fair market value of the net assets of a Subsidiary of the Company at the time that such Subsidiary is designated an Unrestricted Subsidiary; *provided, however*, that upon a redesignation of such Subsidiary as a Restricted Subsidiary, the Company shall be deemed to continue to have a permanent "Investment" in an Unrestricted Subsidiary in an amount (if positive) equal to:

(a) the Company's "Investment" in such Subsidiary at the time of such redesignation; less

(b) the portion (proportionate to the Company's equity interest in such Subsidiary) of the fair market value of the net assets of such Subsidiary at the time of such redesignation; and

(2) any property transferred to or from an Unrestricted Subsidiary shall be valued at its fair market value at the time of such transfer, in each case as determined in good faith by the Company.

"*Investors*" means (i) CCMP Capital Advisors, LLC and their Affiliates but not including, however, any of their operating portfolio companies and (ii) Ineos Capital Partners and their Affiliates but not including, however any of their operating portfolio companies.

"*Issue Date*" means , 2016.

"*Issuer*" has the meaning set forth in the first paragraph under "General."

"*IRB Transactions*" means one or more transactions involving the disposition and/or financing of Real Estate Assets owned by any Subsidiary of Holdings in the form of an industrial revenue bond financing or similar financing, in an aggregate amount not to exceed $75,000,000.

"*Junior Lien Obligations*" means the Obligations with respect to other Indebtedness permitted to be incurred under the indenture, which is by its terms intended to be secured by the Collateral on a basis junior to the notes pursuant to customary intercreditor arrangements entered into in accordance with the terms of the Indenture and the Security Documents; *provided* such Lien is permitted to be incurred under the indenture.

"*Legal Holiday*" means a Saturday, a Sunday or any other day on which commercial banking institutions are not required by law, regulation or executive order to be open in the State of New York or in the State at the place of payment. If a payment date at a place of payment is on a Legal Holiday, payment shall be made at that place on the next succeeding Business Day, and no interest shall accrue on such payment for the intervening period.

"*Lien*" means, with respect to any asset, any mortgage, lien, deed of trust, hypothecation, pledge, charge, security interest or encumbrance of any kind in respect of such asset, whether or not filed, recorded or otherwise perfected under applicable law (including any conditional sale or other title retention agreement, any lease in the nature thereof); provided that in no event shall an operating lease be deemed to constitute a Lien.

"*Management Investors*" means the officers, directors, employees and other members of the management of the Company, any direct or indirect parent company of the Company and/or any Subsidiary of Holdings.

"*Market Capitalization*" means an amount equal to (i) the total number of issued and outstanding shares of common Equity Interests of the Company or the applicable parent company, as applicable, on the date of the declaration of a Restricted Payment permitted pursuant to clause (9) of the second paragraph under "—Certain Covenants—Limitation on Restricted Payments" multiplied by (ii) the arithmetic mean of the closing prices per share of such common Equity Interests on the principal securities exchange on which such common Equity Interests are traded for the 30 consecutive trading days immediately preceding the date of declaration of such Restricted Payment.

"*Moody's*" means Moody's Investors Service, Inc. and any successor to its rating agency business.

"*Net Income*" means, with respect to any Person, the net income (loss) of such Person, determined in accordance with GAAP and before any reduction in respect of Preferred Stock dividends.

"*Net Proceeds*" means the aggregate cash proceeds received by the Company or any of its Restricted Subsidiaries in respect of any Asset Sale, including, without limitation, any cash received in respect of or upon the sale or other disposition of any Designated Non-cash Consideration received in any Asset Sale, net of the direct costs relating to such Asset Sale and the sale or disposition of such Designated Non-cash Consideration, including legal, accounting and investment banking fees, and brokerage and sales commissions, any relocation expenses incurred as a result thereof (including pursuant to any tax sharing or tax distribution arrangements), taxes paid or payable as a result thereof, amounts required to be applied to the repayment of principal, premium, if any, and interest on Indebtedness (other than Subordinated Indebtedness) secured by a Lien on the assets disposed of required (other than required by clause (1) of the second paragraph of "Repurchase at the Option of Holders—Asset Sales") to be paid as a result of such transaction and any deduction of appropriate amounts to be provided by the Company or any of its Restricted Subsidiaries as a reserve in accordance with GAAP against any liabilities associated with the asset disposed of in such transaction and retained by the Company or any of its Restricted Subsidiaries after such sale or other disposition thereof, including pension and other post-employment benefit liabilities and liabilities related to environmental matters or against any indemnification obligations associated with such transaction.

"*Notes Priority Collateral*" means all Collateral other than ABL Priority Collateral.

"*Obligations*" means any principal, interest (including any interest accruing subsequent to the filing of a petition in bankruptcy, reorganization or similar proceeding at the rate provided for in the documentation with respect thereto, whether or not such interest is an allowed claim under applicable state, federal or foreign law), penalties, fees, expenses, indemnification, reimbursements (including reimbursement obligations with respect to letters of credit and banker's acceptances), damages and other liabilities, and guarantees of payment of such principal, interest, penalties, fees, expenses, indemnifications, reimbursements, damages and other liabilities, payable under the documentation governing any Indebtedness.

"*Officer*" means the Chairman of the Board, the Chief Executive Officer, the Chief Financial Officer, the President, any Executive Vice President, Senior Vice President or Vice President, the Treasurer or the Secretary of the Issuer.

"*Officer's Certificate*" means a certificate signed by an Officer of the Issuer, who must be the principal executive officer, the principal financial officer, the treasurer or the principal accounting officer of the Company that meets the requirements set forth in the Indenture and provided to the Trustee.

"*Opinion of Counsel*" means a written opinion from legal counsel who is reasonably acceptable to the Trustee. The counsel may be an employee of or counsel to the Issuer.

"*Parent Company*" means any Person so long as such Person directly or indirectly owns at least 80.0% of the total voting power of the Capital Stock of the Company, and at the time such Person acquired such voting power, no Person and no group (within the meaning of Section 13(d)(3) or Section 14(d)(2) of the Exchange Act or any successor provision), including any such group acting for the purpose of acquiring, holding or disposing of securities (within the meaning of Rule 13d-5(b)(1) under the Exchange Act) (other than any Permitted Holders), shall have beneficial ownership (within the meaning of Rule 13d-3 under the Exchange Act, or any successor provisions), directly or indirectly, of 50.0% or more of the total voting power of the Voting Stock of such Person.

"*Pari Passu Agent*" means (i) with respect to the Pari Passu Intercreditor Agreement, the Term Loan Credit Agreement Agent, the Collateral Agent and the Authorized Representative of any additional series of Pari Passu Obligations that becomes subject to the Pari Passu Intercreditor Agreement and (ii) with respect to the ABL Intercreditor Agreement, the Term Loan Credit Agreement Agent, the Collateral Agent and the agent or the trustee acting on behalf of any additional series of Pari Passu Obligations that becomes subject to the ABL Intercreditor Agreement.

"*Pari Passu Intercreditor Agreement*" means the agreement described under "Intercreditor Agreements—Pari Passu Intercreditor Agreement."

"*Pari Passu Obligations*" means (i) all Obligations owing pursuant to the Notes, the Security Documents, the Indenture and the Guarantees, (ii) all Obligations owing pursuant to the Term Loan Credit Agreement including any Hedging Obligations and cash management agreements that are secured equally and ratably with the loans and other extensions of credit under the Term Loan Credit Agreement and (iii) with respect to (x) the

Pari Passu Intercreditor Agreement, any "Additional Pari Passu Obligations", which means any Obligations with respect to which a Pari Passu Agent has become party to the Pari Passu Intercreditor Agreement and, if so applicable, the ABL Intercreditor Agreement (in accordance with the procedures set forth therein) on behalf of the holders of such Obligations to the extent the Liens securing such Obligations are permitted by clause (6), (20), (39), (40) (in each case, other than Liens securing ABL Obligations), solely in the case of Refinancing Indebtedness in respect of the Notes, (18) of the definition of "Permitted Liens" and (y) any other Intercreditor Agreement, any Obligations with respect to which a Pari Passu Agent has become party to such Intercreditor Agreement on behalf of the holders of such Obligations to the extent the Liens securing such Obligations are not prohibited by the Indenture (including, if applicable, as a result of such Liens being subordinated to the Liens securing the Obligations under the Notes and the Guarantees pursuant to an Intercreditor Agreement).

"*Permitted Asset Swap*" means the substantially concurrent purchase and sale or exchange of Related Business Assets or a combination of Related Business Assets and Cash Equivalents between the Company or any of its Restricted Subsidiaries and another Person; provided that any Cash Equivalents received must be applied in accordance with the "Repurchase at the Option of Holders—Asset Sales" covenant.

"*Permitted Holders*" means (i) each of the Investors, (ii) each of the Management Investors and (iii) any group (within the meaning of Section 13(d)(3) or Section 14(d)(2) of the Exchange Act or any successor provision) of which any of the foregoing are members; *provided* that, in the case of such group and without giving effect to the existence of such group or any other group, such Permitted Holders and members of management, collectively, have beneficial ownership of more than 50% of the total voting power of the Voting Stock of the Company or any of its direct or indirect parent companies. Any person or group (within the meaning of Section 13(d)(3) of Section 14(d)(2) of the Exchange Act, or any successor provision) whose acquisition of beneficial ownership (within the meaning of Rule 13d-3 under the Exchange Act, or any successor provision) constitutes a Change of Control in respect of which a Change of Control Offer is made in accordance with the requirements of the covenant described under "Repurchase at the Option of Holders—Change of Control" (or would result in a Change of Control Offer in the absence of the waiver of such requirement by Holders in accordance with the covenant described under "Repurchase at the Option of Holders—Change of Control") will thereafter, together with its Affiliates, constitute an additional Permitted Holder.

"*Permitted Investments*" means:

(1) any Investment in the Company or any of its Restricted Subsidiaries;

(2) any Investment in cash and Cash Equivalents or Investment Grade Securities;

(3) any Investment by the Company or any of its Restricted Subsidiaries in a Person (including in the Equity Interests of such Person) if as a result of such Investment:

(a) such Person becomes a Restricted Subsidiary; or

(b) such Person, in one transaction or a series of related transactions, is merged, amalgamated or consolidated with or into, or transfers or conveys substantially all of its assets to, or is liquidated into, the Company or a Restricted Subsidiary,

and, in each case, any Investment held by such Person; *provided* that such Investment was not acquired by such Person in contemplation of such acquisition, merger, consolidation or transfer;

(4) any Investment in securities or other assets not constituting cash, Cash Equivalents or Investment Grade Securities and received in connection with an Asset Sale made pursuant to the first paragraph under "Repurchase at the Option of Holders—Asset Sales" or any other disposition of assets not constituting an Asset Sale;

(5) any Investment existing on, or made pursuant to binding commitments existing on, the Issue Date and any extension, modification, replacement, renewal or reinvestments of any such Investments existing or

committed on the Issue Date (other than reimbursements of Investments in the Company or any Subsidiary); *provided* that the amount of any such Investment may be increased (x) as required by the terms of such Investment or commitment as in existence on the Issue Date or (y) as otherwise permitted under the Indenture;

(6) any Investment acquired by the Company or any of its Restricted Subsidiaries:

(a) in exchange for any other Investment or accounts receivable held by the Company or any such Restricted Subsidiary in connection with or as a result of a bankruptcy, workout, reorganization or recapitalization of, or settlement of delinquent accounts and disputes with or judgments against, the issuer of such other Investment or accounts receivable;

(b) as a result of a foreclosure by the Company or any of its Restricted Subsidiaries with respect to any secured Investment or other transfer of title with respect to any secured Investment in default;

(c) as a result of the settlement, compromise or resolution of litigation, arbitration or other disputes with Persons who are not Affiliates, or

(d) in settlement of debts created in the ordinary course of business;

(7) Hedging Obligations permitted under clause (10) of the covenant described in "Certain Covenants—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock";

(8) any Investment in a Similar Business having an aggregate fair market value, taken together with all other Investments made pursuant to this clause (8) that are at that time outstanding, not to exceed the greater of (x) $200.0 million and (y) 5.0% of Consolidated Total Assets (with the fair market value of each Investment being measured at the time made and without giving effect to subsequent changes in value); *provided, however*, that if any Investment pursuant to this clause (8) is made in any Person that is not a Restricted Subsidiary of the Company at the date of the making of such Investment and such Person becomes a Restricted Subsidiary after such date, such investment shall thereafter be deemed to have been made pursuant to clause (1) above and shall cease to have been made pursuant to this clause (8) for so long as such Person continues to be a Restricted Subsidiary;

(9) Investments the payment for which consists of Equity Interests (exclusive of Disqualified Stock) of the Company, or any of its direct or indirect parent companies; *provided, however,* that such Equity Interests will not increase the amount available for Restricted Payments under clause (3) of the first paragraph under the covenant described in "Certain Covenants—Limitation on Restricted Payments";

(10) guarantees (including Guarantees) of Indebtedness permitted under the covenant described in "Certain Covenants—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock," performance guarantees and Contingent Obligations in the ordinary course of business and the creation of liens on the assets of the Company or any of its Restricted Subsidiaries in compliance with the covenant described in "Certain Covenants—Liens," including, without limitation, any guarantee or other obligation issued or incurred under the Senior Credit Facilities in connection with any letter of credit issued for the account of the Company or any of its Subsidiaries (including with respect to the issuance of, or payments in respect of drawings under, such letters of credit);

(11) any transaction to the extent it constitutes an Investment that is permitted and made in accordance with the provisions of the second paragraph of the covenant described under "Certain Covenants—Transactions with Affiliates" (except transactions described in clauses (2), (5) and (8) of the second paragraph thereof);

(12) Investments consisting of or to finance purchases and acquisitions of inventory, supplies, materials, services or equipment or purchases of contract rights or licenses or leases of intellectual property;

(13) Investments having an aggregate fair market value, taken together with all other Investments made pursuant to this clause (13) that are at that time outstanding (without giving effect to the sale of an

Unrestricted Subsidiary to the extent the proceeds of such sale do not consist of, or have not been subsequently sold or transferred for, cash or marketable securities), not to exceed the greater of (x) $200.0 million and (y) 5% of Consolidated Total Assets (with the fair market value of each investment being measured at the time made and without giving effect to subsequent changes in value); *provided, however*, that if any Investment pursuant to this clause (13) is made in any Person that is not a Restricted Subsidiary of the Company at the date of the making of such Investment and such Person becomes a Restricted Subsidiary after such date, such Investment shall thereafter be deemed to have been made pursuant to clause (1) above and shall cease to have been made pursuant to this clause (13) for so long as such Person continues to be a Restricted Subsidiary;

(14) Investments relating to a Receivables Subsidiary that, in the good faith determination of the Company, are necessary or advisable to effect any Receivables Facility;

(15) loans and advances to, or guarantees of Indebtedness of, officers, directors, employees, managers, consultants or independent contractors and members of management of the Company (or their respective immediate family members), any of its Subsidiaries or any direct or indirect parent of the Company not in excess of $5.0 million outstanding at any one time, in the aggregate (calculated without regard to write-downs or write-offs thereof);

(16) loans and advances to present or former officers, directors, employees, consultants, managers, members of management and independent contractors of payroll payments or other compensation and for travel, moving, entertainment and other similar expenses, drawing accounts and similar expenditures, in each case incurred in the ordinary course of business or consistent with past practices or to fund such Person's purchase of Equity Interests of the Company or any direct or indirect parent company thereof;

(17) Investments consisting of licensing or contribution of intellectual property pursuant to joint marketing arrangements with other Persons;

(18) Investments in prepaid expenses, negotiable instruments held for collection and lease, utility and workers compensation, performance and similar deposits entered into as a result of the operations of the business in the ordinary course;

(19) Investments in the Company or any Subsidiary or any joint venture as required by, or made pursuant to, intercompany cash management arrangements, buy/sell arrangements between the joint venture parties set forth in joint venture agreements and similar binding arrangements or related activities arising in the ordinary course of business;

(20) Investments in the ordinary course of business consisting of endorsements for collection or deposit and customary trade arrangements with customers;

(21) Investments in joint ventures in an aggregate amount not to exceed $80.0 million outstanding at any one time;

(22) the Notes and the related Guarantees;

(23) guarantees of leases (other than capital leases) or of other obligations not constituting Indebtedness, in each case in the ordinary course of business;

(24) Investments (i) constituting deposits, prepayments and other credits to suppliers, (ii) made in connection with obtaining, maintaining or renewing client and customer contracts and (iii) in the form of advances made to distributors, suppliers, licensors and licensees, in each case, in the ordinary course of business or, in the case of clause (iii), to the extent necessary to maintain the ordinary course of supplies to the Company or any Subsidiary; and

(25) Investments made in connection with any IRB Transaction.

"*Permitted Liens*" means, with respect to any Person:

(1) (a) (i) pledges, deposits or security by such Person under workmen's compensation laws, unemployment insurance, employers' health tax and other social security laws or similar legislation or

regulations, health, disability or other employee benefits or property and deposits securing liability to insurance carriers under insurance or self-insurance arrangements in respect of such obligations and (ii) pledges and deposits and other Liens securing liability for reimbursement or indemnification obligations of (including obligations in respect of letters of credit or bank guarantees for the benefit of) insurance carriers providing property, casualty, liability or other insurance to the Company and its Subsidiaries; or (b) Liens, pledges and deposits in connection with bids, tenders, contracts (other than for Indebtedness for borrowed money) or leases, statutory obligations, surety, stay, customs, bid and appeal bonds, performance and return of money bonds, bids, leases, government contracts, trade contracts, agreements with utilities, performance and completion guarantees and other obligations of a like nature (including letters of credit in lieu of any such items or to support the issuance thereof) incurred in the ordinary course of business, including those incurred to secure health, safety and environmental obligations in the ordinary course of business and obligations in respect of letters of credit or bank guarantees that have been posted to support payment of the items described in this clause (1);

(2) Liens imposed by law, such as landlord's, banks', carriers', warehousemen's, workmen, materialmen's, repairmen's, construction and mechanics' Liens, (i) for sums not yet overdue for a period of more than 30 days, (ii) being contested in good faith by appropriate actions or other Liens arising out of judgments or awards against such Person with respect to which such Person shall then be proceeding with an appeal or other proceedings for review if adequate reserves with respect thereto are maintained on the books of such Person in accordance with GAAP or (iii) with respect to which the failure to make payment could not reasonably be expected to have a material adverse effect;

(3) Liens for taxes, assessments or other governmental charges (i) not yet overdue for a period of more than 30 days, (ii) which are being contested in good faith by appropriate actions diligently conducted, if adequate reserves with respect thereto are maintained on the books of such Person in accordance with GAAP, (iii) for property taxes on property that the Company or one of its Subsidiaries has determined to abandon if the sole recourse for such tax, assessment, charge, levy or claim is to such property or (iv) with respect to which the failure to make payment could not reasonably be expected to have a material adverse effect;

(4) Liens in favor of issuers of performance, surety, bid, indemnity, warranty, release, appeal or similar bonds or with respect to other regulatory requirements or letters of credit or bankers' acceptances issued, and completion guarantees provided for, in each case pursuant to the request of and for the account of such Person in the ordinary course of its business or consistent with past practice prior to the Issue Date;

(5) minor survey exceptions, minor encumbrances, ground leases, easements or reservations of, or rights of others for, licenses, rights-of-way, servitudes, sewers, electric lines, drains, telegraph and telephone and cable television lines, gas and oil pipelines and other similar purposes, or zoning, building codes or other restrictions (including, without limitation, minor defects or irregularities in title and similar encumbrances) as to the use of real properties or Liens incidental to the conduct of the business of such Person or to the ownership of its properties which were not incurred in connection with Indebtedness and which do not in the aggregate materially impair their use in the operation of the business of such Person;

(6) Liens securing Indebtedness permitted to be incurred pursuant to clause (4), (12)(b), (14)(y), (18) or (26) of the second paragraph of the covenant described under "Certain Covenants—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock"; *provided* that (a) Liens securing Indebtedness, Disqualified Stock or Preferred Stock to be Incurred pursuant to clause (4) or (26) of the second paragraph of the covenant described under "Certain Covenants—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock" are limited to the assets financed with such Indebtedness, Disqualified Stock or Preferred Stock and any replacements thereof, additions and accessions thereto and the proceeds and products thereof and related property and (b) Liens securing Indebtedness permitted to be incurred pursuant to clause (18) extend only to the assets of non-Guarantor Subsidiaries;

(7) Liens existing on the Issue Date (other than Liens securing the Term Loan Credit Agreement, the ABL Credit Agreement, and the Notes);

(8) Liens existing on property or shares of stock of a Person at the time such Person becomes a Subsidiary; *provided, however*, such Liens are not created or incurred in connection with, or in contemplation of, such other Person becoming such a Subsidiary; *provided, further, however,* that such Liens may not extend to any other property owned by the Company or any of its Restricted Subsidiaries;

(9) Liens existing on property at the time the Company or a Restricted Subsidiary acquired the property, including any acquisition by means of a merger, amalgamation or consolidation with or into the Company or any of its Restricted Subsidiaries; *provided, however,* that such Liens are not created or incurred in connection with, or in contemplation of, such acquisition, merger, amalgamation or consolidation; *provided, further, however,* that the Liens may not extend to any other property owned by the Company or any of its Restricted Subsidiaries;

(10) Liens securing Indebtedness or other obligations of the Company or a Restricted Subsidiary owing to the Company or another Restricted Subsidiary permitted to be incurred in accordance with the covenant described under "Certain Covenants—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock";

(11) Liens securing Hedging Obligations and in respect of Cash Management Services so long as the related Indebtedness is permitted to be incurred under the Indenture;

(12) Liens on specific items of inventory or other goods and proceeds of any Person securing such Person's obligations in respect of documentary letters of credit or bankers' acceptances, a bank guarantee or letters of credit issued or created for the account of such Person to facilitate the purchase, shipment or storage of such inventory or other goods;

(13) leases, subleases, licenses or sublicenses, grants or permits (including with respect to intellectual property and software) granted to others in the ordinary course of business which do not materially interfere with the ordinary conduct of the business of the Company or any of its Restricted Subsidiaries and the customary rights reserved or vested in any Person by the terms of any lease, sublease, license, sublicense, grant or permit, or to require annual or periodic payments as a condition to the continuance thereof;

(14) Liens arising from Uniform Commercial Code (or equivalent statutes) financing statement filings regarding operating leases or accounts in connection with any transaction otherwise permitted under the Indenture;

(15) Liens in favor of the Company or any Guarantor;

(16) Liens on equipment of the Company or any of its Restricted Subsidiaries granted in the ordinary course of business to the Company's or its Subsidiaries' customers;

(17) (a) Liens on accounts receivable and related assets incurred in connection with a Receivables Facility and (b) Liens on assets sold or transferred or purported to be sold or transferred to a Receivables Subsidiary in connection with a Receivables Facility and the proceeds of such assets;

(18) Liens to secure any refinancing, refunding, extension, renewal or replacement (or successive refinancing, refunding, extensions, renewals or replacements) as a whole, or in part, of any Indebtedness secured by any Lien referred to in the foregoing clauses (6), (7), (8), (9) and (39); *provided, however,* that (a) such new Lien shall be limited to all or part of the same property that secured the original Lien (other than the proceeds and products thereof, accessions thereto and improvements on such property), and (b) the Indebtedness secured by such Lien at such time is not increased to any amount greater than the sum of (i) the outstanding principal amount or, if greater, committed amount of the Indebtedness described under clauses (6), (7), (8), (9) and (39) at the time the original Lien became a Permitted Lien under the Indenture, and (ii) an amount necessary to pay any accrued interest and fees (including original issue discount, upfront fees or similar fees) and expenses, including premiums (including tender premiums), related to such refinancing, refunding, extension, renewal or replacement;

(19) deposits made or other security provided to secure liabilities to insurance carriers under insurance or self-insurance arrangements in the ordinary course of business;

(20) Liens securing judgments for the payment of money not constituting an Event of Default under clause (6) under the caption “Events of Default and Remedies” so long as such Liens are adequately bonded and any appropriate legal proceedings that may have been duly initiated for the review of such judgment have not been finally terminated or the period within which such proceedings may be initiated has not expired;

(21) Liens in favor of customs and revenue authorities arising as a matter of law to secure payment of customs duties in connection with the importation of goods in the ordinary course of business;

(22) Liens (i) of a collection bank arising under Section 4-210 of the Uniform Commercial Code on items in the course of collection, (ii) attaching to commodity trading accounts or other commodity brokerage accounts incurred in the ordinary course of business, and (iii) in favor of banking institutions arising as a matter of law encumbering deposits (including the right of set-off) and which are within the general parameters customary in the banking industry;

(23) Liens deemed to exist in connection with Investments in repurchase agreements or other Cash Equivalents permitted under “Certain Covenants—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock”; *provided* that such Liens do not extend to any assets other than those that are the subject of such repurchase agreement or other Cash Equivalent;

(24) Liens encumbering reasonable customary initial deposits and margin deposits and similar Liens attaching to commodity trading accounts or other brokerage accounts incurred in the ordinary course of business and not for speculative purposes;

(25) Liens that are contractual rights of set-off (i) relating to the establishment of depository relations with banks not given in connection with the issuance of Indebtedness, (ii) relating to pooled deposit or sweep accounts of the Company or any of its Restricted Subsidiaries to permit satisfaction of overdraft or similar obligations incurred in the ordinary course of business of the Company and its Restricted Subsidiaries or (iii) relating to purchase orders and other agreements entered into with customers of the Company or any of its Restricted Subsidiaries in the ordinary course of business and (iv) commodity trading or other brokerage accounts incurred in the ordinary course of business;

(26) Liens solely on any cash earnest money deposits made by the Company or any of its Restricted Subsidiaries in connection with any letter of intent or purchase agreement permitted under the Indenture;

(27) the rights reserved or vested in any Person by the terms of any lease, license, franchise, grant or permit held by the Company or any of its Restricted Subsidiaries or by a statutory provision, to terminate any such lease, license, franchise, grant or permit, or to require annual or periodic payments as a condition to the continuance thereof;

(28) restrictive covenants affecting the use to which real property may be put; *provided, however,* that the covenants are complied with;

(29) security given to a public utility or any municipality or governmental authority when required by such utility or authority in connection with the operations of that Person in the ordinary course of business;

(30) zoning by-laws and other land use restrictions, including, without limitation, site plan agreements, development agreements and contract zoning agreements;

(31) Liens arising out of conditional sale, title retention, consignment or similar arrangements for sale of goods entered into by the Company or any Restricted Subsidiary in the ordinary course of business;

(32) Liens arising from Personal Property Security Act financing statement filings regarding leases entered into by the Company or any of its Restricted Subsidiaries in the ordinary course of business;

(33) (i) customary transfer restrictions and purchase options in joint venture and similar agreements, (ii) Liens on Equity Interests in joint ventures or Unrestricted Subsidiaries securing capital contributions to, or obligations of, such Persons and (iii) customary rights of first refusal and tag, drag and similar rights in joint venture agreements and agreements with respect to non-Wholly-Owned Subsidiaries entered into in the ordinary course of business;

(34) (i) the prior rights of consignees and their lenders under consignment arrangements entered into in the ordinary course of business, (ii) Liens arising out of conditional sale, title retention or similar arrangements for the sale of goods in the ordinary course of business and (iii) Liens arising by operation of law under Article 2 of the Uniform Commercial Code;

(35) Liens on the assets and Capital Stock of non-Guarantor Subsidiaries of the Company securing Indebtedness permitted to be incurred by non-Guarantor Subsidiaries under this Indenture;

(36) other Liens securing obligations not to exceed the greater of (x) $100.0 million and (y) 2.25% of Consolidated Total Assets, at any one time outstanding;

(37) Liens securing reimbursement obligations in respect of documentary letters of credit or bankers' acceptances in the ordinary course of business, provided that such Liens attach only to the documents and goods covered thereby and proceeds thereof;

(38) Liens securing the Specified Property Financing;

(39) Liens securing the Notes, and the related Guarantees (not including any Additional Notes); and

(40) Liens securing ABL Obligations in respect of (x) Indebtedness and other obligations permitted to be incurred under any ABL Credit Agreement, including any letter of credit facility relating thereto, that was permitted by the terms of the Indenture to be incurred pursuant to clause (1)(A) of the second paragraph of the covenant described under "—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock," and (y) obligations of the Company or any Guarantor in respect of any Bank Products or Cash Management Services provided by any agent or lender party to any ABL Credit Agreement permitted to be secured pursuant to clause (x) hereof or any affiliate of such agent or lender (or any Person that was a lender or an affiliate of a lender at the time the applicable agreements pursuant to which such Bank Products or Cash Management Services are provided were entered into);

(41) Liens securing Pari Passu Obligations in respect of (x) Indebtedness and other obligations permitted to be incurred under any Credit Facilities, including any letter of credit facility relating thereto, that was permitted by the terms of the Indenture to be incurred pursuant to clause (1)(B) (other than with respect to Junior Lien Obligations incurred thereunder) of the second paragraph of the covenant described under "—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock," and (y) obligations of the Company or any Guarantor in respect of any Bank Products or Cash Management Services provided by any agent or lender party to any Credit Facility permitted to be secured pursuant to clause (x) hereof or any affiliate of such agent or lender (or any Person that was a lender or an affiliate of a lender at the time the applicable agreements pursuant to which such Bank Products or Cash Management Services are provided were entered into);

(42) Liens incurred to secure Obligations in respect of any Indebtedness permitted to be incurred pursuant to the covenant described under "Certain Covenants—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock"; *provided* that, with respect to Liens securing Obligations permitted under this clause (42), at the time of incurrence and after giving pro forma effect thereto, the Consolidated First Lien Secured Debt Ratio of the Issuer and its Restricted Subsidiaries would be either (1) no greater than 4.25 to 1.0 or (2) on a *pro forma* basis after giving effect to such incurrence and any related transaction, the Consolidated Secured Debt Ratio does not increase as a result of such transaction; provided that for purposes of this clause (2), the incurrence of Indebtedness was for purposes of funding an acquisition;

(43) Liens incurred to secure Junior Lien Obligations in respect of any Indebtedness permitted to be incurred pursuant to the covenant described under "Certain Covenants—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock"; *provided* that, with respect to Liens securing Junior Lien Obligations permitted under this clause (43), at the time of incurrence and after giving pro forma effect thereto, the Consolidated Secured Debt Ratio of the Issuer and its Restricted Subsidiaries would be either (1) no greater than 5.0 to 1.0 or (2) on a *pro forma* basis after giving effect to such

incurrence and any related transaction, the Consolidated Secured Debt Ratio does not increase as a result of such transaction; provided that for purposes of this clause (2), the incurrence of Indebtedness was for purposes of funding an acquisition; and

(44) Liens arising out of (a) Specified Lease Transactions or (b) IRB Transactions.

For purposes of determining compliance with this definition, (x) a Lien need not be incurred solely by reference to one category of Permitted Liens described in this definition but may be incurred under any combination of such categories (including in part under one such category and in part under any other such category), (y) in the event that a Lien (or any portion thereof) meets the criteria of one or more of such categories of Permitted Liens, the Company shall, in its sole discretion, classify or reclassify such Lien (or any portion thereof) in any manner that complies with this definition, and (z) in the event that a portion of Indebtedness secured by a Lien could be classified as secured in part pursuant to clause (42) or clause (43) above (giving effect to the incurrence of such portion of such Indebtedness), the Company, in its sole discretion, may classify such portion of such Indebtedness (and any Obligations in respect thereof) as having been secured pursuant to clause (42) or clause (43), as applicable, above and thereafter the remainder of the Indebtedness as having been secured pursuant to one or more of the other clauses of this definition.

For purposes of this definition, the term "*Indebtedness*" shall be deemed to include interest on such Indebtedness.

"*Person*" means any individual, corporation, limited liability company, partnership, joint venture, association, joint stock company, trust, unincorporated organization, government or any agency or political subdivision thereof or any other entity.

"*Preferred Stock*" means any Equity Interest with preferential rights of payment of dividends or upon liquidation, dissolution, or winding up.

"*Public Company Costs*" means costs relating to compliance with the provisions of the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended, as applicable to companies with equity or debt securities held by the public, the rules of national securities exchange companies with listed equity or debt securities, directors' or managers' compensation, fees and expense reimbursement, costs relating to investor relations, shareholder meetings and reports to shareholders or debtholders, directors' and officers' insurance and other executive costs, legal and other professional fees, and listing fees.

"*Qualified Proceeds*" means assets that are used or useful in, or Capital Stock of any Person engaged in, a Similar Business; provided that the fair market value of any such assets or Capital Stock shall be determined by the Company in good faith.

"*Qualifying IPO*" means the issuance and sale by any direct or indirect parent company of its common Capital Stock in an underwritten primary public offering (other than a public offering pursuant to a registration statement on Form S-8) pursuant to an effective registration statement (whether alone or in connection with a secondary public offering) pursuant to which the net proceeds are received by any direct or indirect parent company and contributed to the Company or any Restricted Subsidiary.

"*Rating Agencies*" means Moody's and S&P or if Moody's or S&P or both shall not make a rating on the Notes publicly available, a nationally recognized statistical rating agency or agencies, as the case may be, selected by the Company which shall be substituted for Moody's or S&P or both, as the case may be.

"*Receivables Facility*" means one or more receivables financing facilities as amended, supplemented, modified, extended, renewed, restated or refunded from time to time, the Obligations of which are limited-recourse (except for Securitization Undertakings made in connection with such facilities) to the Company or any of its Restricted Subsidiaries (other than a Receivables Subsidiary) pursuant to which the Company or any of its

Restricted Subsidiaries sells its accounts receivable to either (a) a Person that is not a Restricted Subsidiary or (b) a Receivables Subsidiary that in turn sells its accounts receivable to a Person that is not a Restricted Subsidiary, in each case, with the same or different arrangements, agents, lenders, borrowers or issuer and, in each case, as amended, restated, amended and restated, supplemented, waived, renewed, refunded, replaced, restructured, repaid, refinanced or otherwise modified in whole or in part from time to time.

"*Real Estate Asset*" means, at any time of determination, all right, title and interest (fee, leasehold or otherwise) of the Company or any Restricted Subsidiary in and to real property (including, but not limited to, land, improvements and fixtures thereon) of such Person.

"*Receivables Fees*" means distributions or payments made directly or by means of discounts with respect to any accounts receivable or participation interest therein issued or sold in connection with, and other fees paid to a Person that is not a Restricted Subsidiary in connection with, any Receivables Facility.

"*Receivables Subsidiary*" means any Subsidiary formed for the purpose of, and that engages only in one or more Receivables Facilities and other activities reasonably related thereto.

"*Related Business Assets*" means assets (other than cash or Cash Equivalents) used or useful in a Similar Business, provided that any assets received by the Company or a Restricted Subsidiary in exchange for assets transferred by the Company or a Restricted Subsidiary shall not be deemed to be Related Business Assets if they consist of securities of a Person, unless upon receipt of the securities of such Person, such Person would become a Restricted Subsidiary.

"*Reserved Indebtedness Amount*" has the meaning assigned to it above in "Certain Covenants—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock"

"*Restricted Investment*" means an Investment other than a Permitted Investment.

"*Restricted Subsidiary*" means, at any time, any direct or indirect Subsidiary of the Company (including any Foreign Subsidiary) that is not then an Unrestricted Subsidiary; *provided, however,* that upon the occurrence of an Unrestricted Subsidiary ceasing to be an Unrestricted Subsidiary, such Subsidiary shall be included in the definition of "Restricted Subsidiary."

"*S&P*" means Standard & Poor's, a division of The McGraw-Hill Companies, Inc., and any successor to its rating agency business.

"*Sale and Lease-Back Transaction*" means any arrangement providing for the leasing by the Company or any of its Restricted Subsidiaries of any real or tangible personal property, which property has been or is to be sold or transferred by the Company or such Restricted Subsidiary to a third Person in contemplation of such leasing.

"*SEC*" means the U.S. Securities and Exchange Commission.

"*Secured Indebtedness*" means any Indebtedness of the Company or any of its Restricted Subsidiaries secured by a Lien.

"*Securities Act*" means the Securities Act of 1933, as amended, and the rules and regulations of the SEC promulgated thereunder.

"*Securitization Undertakings*" means representations, warranties, covenants, repurchase obligations, indemnities and guarantees of performance entered into by the Company or any Subsidiary of the Company which the Company has determined in good faith to be required by a seller or servicer (or parent of such seller or servicer) in a Receivables Facility.

"*Security Documents*" means the security agreements, pledge agreements, mortgages, deeds of trust, collateral assignments and related agreements, as amended, supplemented, restated, renewed, refunded, replaced, restructured, repaid, refinanced or otherwise modified from time to time, creating the security interest in the collateral as contemplated by the Indenture.

"*Senior Credit Facilities*" means (1) the term loan credit agreement, dated as of the Issue Date, among the Issuer, the other borrowers and guarantors party thereto, the subsidiaries of the Company party thereto from time to time, the lenders party thereto from time to time in their capacities as lenders thereunder and Credit Suisse AG, Cayman Islands Branch, as administrative agent for the lenders including one or more debt facilities or other financing arrangements (including, without limitation indentures) providing for term loans, revolving loans or other long-term indebtedness that replace or refinance such credit facility, including any such replacement or refinancing facility or indenture that increases or decreases the amount permitted to be borrowed thereunder or alters the maturity thereof and whether by the same or any other agent, lender or group of lenders, and any amendments, supplements, modifications, extensions, renewals, restatements, amendments and restatements or refundings thereof or any such indentures or credit facilities that replace or refinance such credit facility, (2) the ABL Credit Agreement, dated as of the Issue Date, among the Issuer, the other borrowers and guarantors party thereto, the subsidiaries of the Company party thereto from time to time, the lenders party thereto from time to time in their capacities as lenders thereunder, Citibank, N.A., as administrative agent and as collateral agent and the other agents party thereto, including one or more debt facilities or other financing arrangements (including, without limitation, indentures) providing for term loans or other long-term indebtedness that replace or refinance such credit facility, including any such replacement or refinancing facility or indenture that increases or decreases the amount permitted to be borrowed thereunder or alters the maturity thereof and whether by the same or any other agent, lender or group of lenders, and any amendments, supplements, modifications, extensions, renewals, restatements, amendments and restatements or refundings thereof or any such indentures or credit facilities that replace or refinance such credit facility and (3) whether or not the credit agreement referred to in clauses (1) and (2) remain outstanding, if designated by the Company to be included in the definition of "Senior Credit Facilities," one or more (i) debt facilities or commercial paper facilities, providing for revolving credit loans, term loans, receivables financing (including through the sale of receivables to lenders or to special purpose entities formed to borrower from lenders against such receivables) or letters of credit, (ii) debt securities, indentures or other forms of debt financing (including convertible or exchangeable debt instruments or bank guarantees or bankers' acceptances) or (iii) instruments or agreements evidencing any other Indebtedness, in each case, with the same or different arrangements, agents, lenders, borrowers or issuer and, in each case, as amended, restated, amended and restated, supplemented, waived, renewed, refunded, replaced, restructured, repaid, refinanced or otherwise modified in whole or in part from time to time.

"*Significant Subsidiary*" means any Restricted Subsidiary that would be a "significant subsidiary" as defined in Article 1, Rule 1-02 of Regulation S-X, promulgated pursuant to the Securities Act, as such regulation is in effect on the Issue Date.

"*Similar Business*" means any business conducted or proposed to be conducted by the Company and its Restricted Subsidiaries on the Issue Date or any business that is a reasonable extension, development or expansion of any of the foregoing or is similar, reasonably related, incidental or ancillary thereto.

"*Specified Lease Transactions*" means lease and lease-back and sale and lease-back transactions consummated by the Company or any Guarantor and one or more governmental units in connection with arrangements pursuant to applicable state or local law by which the Company or a Guarantor obtains partial or full abatement of ad valorem taxes levied against the subject property.

"*Specified Property Financing*" means one or more proposed transactions involving the disposition and/or financing of the Issuer's Kansas City property after the Issue Date in the form of an industrial revenue bond financing in an aggregate amount not to exceed $50,000,000 at any one time outstanding.

"*Sponsor Management Agreements*" means those certain management and consulting agreements, existing as of the Issue Date, by and among, the Company, on the one hand, and the Investors and/or one or more of their Affiliates and certain other equity investors, on the other hand.

"*Stated Maturity*" means, with respect to any security, the date specified in such security as the fixed date on which the final payment of principal of such security is due and payable, including pursuant to any mandatory redemption provision (but excluding any provision providing for the repurchase of such security at the option of the holder thereof upon the happening of any contingency beyond the control of the issuer unless such contingency has occurred).

"*Subordinated Indebtedness*" means, with respect to the Notes,

(1) any Indebtedness of either Issuer which is by its terms subordinated in right of payment to the Notes, and

(2) any Indebtedness of any Guarantor which is by its terms subordinated in right of payment to the Guarantee of such entity of the Notes.

"*Subsidiary*" means, with respect to any Person, any corporation, partnership, limited liability company, association, joint venture or other business entity of which more than 50% of the total voting power of stock or other ownership interests entitled (without regard to the occurrence of any contingency) to vote in the election of the Person or Persons (whether directors, managers, trustees or other Persons performing similar functions) having the power to direct or cause the direction of the management and policies thereof is at the time owned or controlled, directly or indirectly, by such Person or one or more of the other subsidiaries of such Person or a combination thereof; provided that in determining the percentage of ownership interests of any Person controlled by another Person, no ownership interests in the nature of a "qualifying share" of the former Person shall be deemed to be outstanding.

"*Subsidiary Guarantors*" means each Restricted Subsidiary that provides a Guarantee of the Notes.

"*Synthetic Lease Obligation*" means the monetary obligation of a Person under a so-called synthetic, off-balance sheet or tax retention lease.

"*Tax and Trust Funds*" means cash, cash equivalents or other assets comprised solely of (a) funds used for payroll and payroll taxes and other employee benefit payments to or for the benefit of the Company's or any Guarantor's employees, (b) all taxes required to be collected, remitted or withheld (including, without limitation, federal and state withholding taxes (including the employer's share thereof)) and (c) any other funds which the Company or any Guarantor holds in trust or as an escrow or fiduciary for another person which is not a Loan Party in the ordinary course of business.

"*Term Loan Credit Agreement*" means the Term Loan Credit Agreement, dated as of the Issue Date, among PQ Corporation, as the borrower, CPQ Midco I Corporation, as holdings, the financial institutions party thereto as lenders and Credit Suisse AG, Cayman Islands Branch, as administrative agent and as collateral agent, as the same may be amended, restated, supplemented, waived or otherwise modified from time to time.

"*Tem Loan Credit Agreement Agent*" means Credit Suisse AG, Cayman Islands Branch, and its successors as administrative agent under the Term Loan Credit Agreement.

"*Transaction Agreement*" means the Reorganization and Transaction Agreement, dated as of August 17, 2015, by and among Holdings, PQ Group Holdings Inc., Eco Merger Sub Corporation, the Company, Eco Services TopCo LLC, Eco Services MidCo LLC, Eco Services Group Holdings LLC, Eco Services Intermediate Holdings LLC, Eco Services Operations LLC and affiliates of CCMP Capital Advisors, LLC including all exhibits and disclosure schedules thereto.

"*Transaction Expenses*" means any fees, premiums, expenses, costs or charges (including original issue discount or upfront fees) incurred or paid by the Company or its Subsidiaries in connection with the Transactions or any related restructuring transactions, including payments to officers, employees and directors as change of control payments, severance payments, special or retention bonuses and charges for repurchase or rollover of, or modifications to, stock options and/or restricted stock and charges or expenses relating to the repayment of existing Indebtedness.

"*Transactions*" means the transactions contemplated by the Transaction Agreement, the issuance of the Notes and the Unsecured Notes, borrowings under the Senior Credit Facilities and restructuring transactions contemplated by or necessary to effect the Transactions contemplated by the Transaction Agreement.

"*Treasury Rate*" means, as of any Redemption Date, the yield to maturity as of such Redemption Date of United States Treasury securities with a constant maturity (as compiled and published in the most recent Federal Reserve Statistical Release H.15 (519) that has become publicly available at least two Business Days prior to the Redemption Date or, in the case of a satisfaction and discharge or defeasance, that has become publically available as of two Business Days before the Issuer deposits funds required under the Indenture with the Trustee (or, if such Statistical Release is no longer published, any publicly available source of similar market data)) most nearly equal to the period from the Redemption Date to   , 2019; *provided*, *however*, that if the period from the Redemption Date to   , 2019 is less than one year, the weekly average yield on actually traded United States Treasury securities adjusted to a constant maturity of one year will be used.

"*Trust Indenture Act*" means the Trust Indenture Act of 1939, as amended (15 U.S.C. §§ 77aaa-77bbbb).

"*Unrestricted Subsidiary*" means:

(1) any Subsidiary of the Company which at the time of determination is an Unrestricted Subsidiary (as designated by the Company, as provided below); and

(2) any Subsidiary of an Unrestricted Subsidiary.

The Company may designate any Subsidiary of the Company (including any existing Subsidiary and any newly acquired or newly formed Subsidiary) to be an Unrestricted Subsidiary unless such Subsidiary or any of its Subsidiaries owns any Equity Interests or Indebtedness of, or owns or holds any Lien on, any property of, the Company or any Subsidiary of the Company (other than solely any Subsidiary of the Subsidiary to be so designated); *provided* that

(1) any Unrestricted Subsidiary must be an entity of which the Equity Interests entitled to cast at least a majority of the votes that may be cast by all Equity Interests having ordinary voting power for the election of directors or Persons performing a similar function are owned, directly or indirectly, by the Company;

(2) such designation complies with the covenants described under "Certain Covenants—Limitation on Restricted Payments"; and

(3) each of:

(a) the Subsidiary to be so designated; and

(b) its Subsidiaries

has not at the time of designation, and does not thereafter, create, incur, issue, assume, guarantee or otherwise become directly or indirectly liable with respect to any Indebtedness pursuant to which the lender has recourse to any of the assets of the Company or any Restricted Subsidiary.

The Company may designate any Unrestricted Subsidiary to be a Restricted Subsidiary; *provided* that, immediately after giving effect to such designation, no Default shall have occurred and be continuing and either:

(1) the Company could incur at least $1.00 of additional Indebtedness pursuant to the Fixed Charge Coverage Ratio test described in the first paragraph under "Certain Covenants—Limitation on Incurrence of Indebtedness and Issuance of Disqualified Stock and Preferred Stock"; or

(2) the Fixed Charge Coverage Ratio for the Company and its Restricted Subsidiaries would be equal to or greater than such ratio for the Company and its Restricted Subsidiaries immediately prior to such designation, in each case on a *pro forma* basis taking into account such designation.

Any such designation by the Company shall be notified by the Company to the Trustee by promptly filing with the Trustee a copy of the resolution of the board of directors of the Company or any committee thereof giving effect to such designation and an Officer's Certificate certifying that such designation complied with the foregoing provisions.

"*Unsecured Notes*" means the Floating Rate Senior Notes issued by the Company, pursuant to a Note Purchase Agreement, to be dated as of   , 2016, by and among the Company and the guarantors party thereto.

"*Voting Stock*" of any Person as of any date means the Capital Stock of such Person that is at the time entitled to vote in the election of the board of directors of such Person.

"*Weighted Average Life to Maturity*" means, when applied to any Indebtedness, Disqualified Stock or Preferred Stock, as the case may be, at any date, the quotient obtained by dividing:

(1) the sum of the products of the number of years from the date of determination to the date of each successive scheduled principal payment of such Indebtedness or redemption or similar payment with respect to such Disqualified Stock or Preferred Stock multiplied by the amount of such payment; by

(2) the sum of all such payments.

"*Wholly-Owned Subsidiary*" of any Person means a Subsidiary of such Person, 100% of the outstanding Equity Interests of which (other than directors' qualifying shares and shares issued to foreign nationals as required under applicable law) shall at the time be owned by such Person or by one or more Wholly-Owned Subsidiaries of such Person or by such Person and one or more Wholly-Owned Subsidiaries of such Person.

CERTAIN UNITED STATES FEDERAL INCOME TAX CONSIDERATIONS

The following is a discussion of certain U.S. federal income tax consequences of the ownership and disposition of the Notes issued pursuant to this offering. This discussion applies only to notes that are held as capital assets for U.S. federal income tax purposes, and is applicable only to holders who purchased the Notes for cash at original issuance at their "issue price" (*i.e.*, the first price at which a substantial amount of the Notes is sold for cash to the public) and does not apply to any Notes purchased by an investor that currently holds 2018 Notes.

This discussion does not describe all of the U.S. federal income tax consequences that may be relevant to you in light of your particular circumstances, including the alternative minimum tax, the Medicare tax on certain investment income and the different consequences that may apply if you are subject to special rules that apply to certain types of investors, such as:

- financial institutions;
- insurance companies;
- dealers or traders subject to a mark-to-market method of accounting with respect to the Notes;
- persons holding the Notes as part of a straddle, hedge, integrated transaction or similar transaction;
- U.S. holders (as defined below) whose functional currency is not the U.S. dollar;
- partnerships or other pass-through entities for U.S. federal income tax purposes; and
- tax-exempt entities.

If an entity or arrangement treated as a partnership for U.S. federal income tax purposes owns Notes, the tax treatment of a partner may depend upon the status of the partner and the activities of the partnership and on certain determinations made at the partner level. If you are a partner in a partnership considering an investment in the Notes, you should consult your tax advisor as to the particular U.S. federal income tax consequences applicable to you.

This discussion is based on the Code, and administrative pronouncements, judicial decisions and final, temporary and proposed Treasury regulations as of the date hereof, changes to any of which subsequent to the date of this offering memorandum may affect the tax consequences described herein.

This discussion does not address any aspect of state, local or non-U.S. taxes, or any U.S. federal taxes other than income taxes (such as gift and estate taxes). You are urged to consult your tax advisor with respect to the application of U.S. federal tax laws to your particular situation, as well as any tax consequences arising under the laws of any state, local or foreign jurisdiction.

U.S. Holders

This section applies to you if you are a "U.S. holder." A U.S. holder is a beneficial owner of a note that is, for U.S. federal income tax purposes:

- an individual who is a citizen or resident of the United States;
- a corporation (or other entity taxable as a corporation for U.S. federal income tax purposes) organized in or under the laws of the United States, any state thereof or the District of Columbia;
- an estate the income of which is includible in gross income for U.S. federal income tax purposes regardless of its source; or
- a trust if (i) a court within the United States is able to exercise primary supervision over the administration of the trust and one or more U.S. persons have the authority to control all substantial decisions of the trust or (ii) such trust has a valid election in effect under applicable Treasury regulations to be treated as a domestic trust for U.S. federal income tax purposes.

Stated Interest and Original Issue Discount

Stated interest on the Notes generally will be taxable to you as ordinary income at the time it is received or accrued, depending on your method of accounting for U.S. federal income tax purposes. If, however, a Note's stated principal amount exceeds its issue price by an amount that does not satisfy a de minimis test, as determined under applicable Treasury regulations, you will be required to include original issue discount ("OID") in gross income (as ordinary income) as it accrues (regardless of your regular method of accounting for U.S. federal income tax purposes, and before the receipt of cash payments attributable to this income) in accordance with a constant-yield method based on a compounding of interest. The rules regarding OID are complex and you should consult your own tax advisors regarding their application.

Sale, Exchange, Retirement, Redemption or Other Taxable Disposition of Notes

Upon the sale, exchange, retirement, redemption, or other taxable disposition of a Note, you generally will recognize gain or loss equal to the difference between the amount realized upon such disposition (less any amount attributable to accrued and unpaid stated interest, which will be taxable as ordinary income as discussed above to the extent not previously included in income) and the adjusted tax basis of the note. Your adjusted tax basis in a Note will, in general, be the amount paid for the note, and increased by any previously accrued OID.

Generally, any gain or loss will be capital gain or loss. Capital gains of non-corporate holders derived in respect of capital assets held for more than one year are generally eligible for reduced rates of taxation. The deductibility of capital losses is subject to limitations.

Information Reporting and Backup Withholding

In general, information reporting requirements will apply to payments of stated interest on the Notes, accruals of OID, if any, and the proceeds of the sale or other taxable disposition (including an exchange, retirement or redemption) of a Note paid to you (unless you are an exempt recipient such as a corporation). Backup withholding may apply to any payments described in the preceding sentence if you fail to provide a taxpayer identification number or a certification that you are not subject to backup withholding.

Backup withholding is not an additional tax, and any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against your U.S. federal income tax liability, provided the required information is timely furnished to the Internal Revenue Service ("IRS").

Non-U.S. Holders

This section applies to you if you are a "non-U.S. holder." A non-U.S. holder is a beneficial owner of a note that is, for U.S. federal income tax purposes:

- a nonresident alien individual, other than certain former citizens and long-term residents of the United States subject to U.S. federal income tax as expatriates;
- a foreign corporation; or
- an estate or trust that is not a U.S. holder;

but does not include an individual who is present in the United States for 183 days or more in the taxable year of disposition. If you are such an individual, you should consult your tax advisor regarding the U.S. federal income tax consequences of the sale or other disposition of a note.

U.S. Federal Withholding Tax

The U.S. federal withholding tax of 30% (or such lower rate specified by an applicable income tax treaty) will not apply to any payment of interest on the Notes (which, for purposes of this discussion of non-U.S. Holders, includes any accrual of OID) under the "portfolio interest exemption," provided that:

- interest paid on the Notes is not effectively connected with your conduct of a trade or business in the United States (as discussed below under "—U.S. Federal Income Tax");
- you do not actually or constructively own 10% or more of the total combined voting power of all classes of our voting stock within the meaning of the Code and the Treasury regulations;
- you are not a controlled foreign corporation that is related to us through actual or constructive equity ownership;
- you are not a bank whose receipt of interest on the Notes is described in Section 881(c)(3)(A) of the Code; and
- either (1) you provide your name and address on an IRS Form W-8BEN or W-8BEN-E (or other applicable form), and certify, under penalties of perjury, that you are not a United States person or (2) you hold your Notes through certain foreign intermediaries and satisfy the certification requirements of applicable Treasury regulations. Special certification rules apply to non-U.S. holders that are pass-through entities rather than corporations or individuals.

If you cannot satisfy the requirements described above, payments of interest made to you will be subject to a 30% U.S. federal withholding tax, unless you provide the applicable withholding agent with a properly executed:

- IRS Form W-8BEN or W-8BEN-E (or other applicable form), certifying an exemption from, or reduction in, withholding under the benefit of an applicable income tax treaty; or
- IRS Form W-8ECI (or other applicable form) certifying that interest paid on the Notes is not subject to withholding tax because it is effectively connected with your conduct of a trade or business in the United States (as discussed below under "—U.S. Federal Income Tax").

The U.S. federal withholding tax of 30% (or such lower rate specified by an applicable income tax treaty) generally will not apply to any gain that you realize on the sale, exchange, retirement, redemption or other disposition of a Note.

U.S. Federal Income Tax

If you are engaged in a trade or business in the United States, and any payment of interest on the Notes (which, for purposes of this discussion of non-U.S. Holders, includes any accrual of OID) is effectively connected with the conduct of that trade or business (and, if required by an applicable income tax treaty, is attributable to a U.S. permanent establishment or a fixed base), then you will be subject to U.S. federal income tax on that interest on a net income basis at graduated U.S. federal income tax rates in generally the same manner as if you were a U.S. holder, and, if you are a foreign corporation, you may also be subject to a "branch profits tax" at a rate of 30% (or, if applicable, a lower treaty rate).

Any gain realized on the sale, exchange, retirement, redemption or other taxable disposition of a Note (such amount excluding any amount allocable to accrued and unpaid interest, which will be treated as interest) generally will not be subject to U.S. federal income tax, unless the gain is effectively connected with your conduct of a trade or business in the United States (and, if required by an applicable income tax treaty, is attributable to a U.S. permanent establishment or a fixed base), in which case gain or loss will be calculated generally in the same manner as if you were a U.S. holder and will be subject to U.S. federal income tax in generally the same manner as described in the preceding paragraph for effectively connected interest.

Information Reporting and Backup Withholding

Generally, we must report to the IRS and to you the amount of interest paid to you (including accruals of OID, if any) and the amount of tax, if any, withheld with respect to those payments. Copies of the information returns reporting such interest payments and any withholding may also be made available to the tax authorities in the country in which you reside or are established under the provisions of an applicable income tax treaty.

In general, you will not be subject to backup withholding with respect to payments of interest on the Notes that we make to you, provided that we do not have actual knowledge or reason to know that you are a United States person, and received from you the required certification that you are a non-U.S. holder described above in the fifth bullet point under "—U.S. Federal Withholding Tax."

Information reporting and, depending on the circumstances, backup withholding will apply to the proceeds of a sale or other taxable disposition (including an exchange, retirement or redemption) of the Notes within the United States or conducted through certain U.S.-related financial intermediaries, unless you certify to the applicable withholding agent under penalties of perjury that you are a non-U.S. holder (and the payor does not have actual knowledge or reason to know that you are a United States person), or you otherwise establish an exemption.

Backup withholding is not an additional tax and any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against your U.S. federal income tax liability, provided the required information is timely furnished to the IRS.

FATCA Withholding Taxes

Provisions of the Code and applicable Treasury regulations, commonly referred to as "FATCA," impose withholding of 30% on payments of U.S.-source interest and, after December 31, 2018, on sales or redemption proceeds of the Notes, paid to "foreign financial institutions" (which is broadly defined for this purpose and in general includes investment vehicles) and certain other non-U.S. entities unless various U.S. information reporting and due diligence requirements (generally relating to ownership by U.S. persons of interests in or accounts with those entities) have been satisfied, or an exemption applies, which is typically evidenced by delivery of a properly executed IRS Form W-8BEN-E. An intergovernmental agreement between the United States and the entity's jurisdiction may modify these requirements. If FATCA withholding is imposed, a beneficial owner that is not a foreign financial institution generally will be entitled to a refund of any amounts withheld by filing a U.S. federal income tax return (which may entail significant administrative burden). You should consult your tax advisor regarding the effects of FATCA on your investment in the Notes.

The preceding summary of certain U.S. federal income tax consequences of the ownership and disposition of the Notes is for general information only and is not tax advice. Accordingly, you should consult your own tax advisor as to particular tax considerations to you of owning and disposing of the Notes, including the applicability and effect of other U.S. federal tax laws, the laws of any state, local or non-U.S. taxing jurisdiction or any applicable tax treaty, and of any proposed changes in applicable law.

CERTAIN ERISA CONSIDERATIONS

The following is a summary of certain considerations associated with the acquisition of the Notes by an "employee benefit plan" (as defined in Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended ("ERISA")) that is subject to ERISA, (B) a "plan" that is subject to Section 4975 of the Code, (C) a governmental plan, church plan or non-U.S. plan subject to applicable law that is similar in purpose or effect to the fiduciary responsibility or prohibited transaction provisions of ERISA or Section 4975 of the Code ("Similar Law") or (D) any entity deemed under ERISA to hold "plan assets" of any of the foregoing by reason of an employee benefit plan's or plan's investment in such entity (each, a "Plan").

General Fiduciary Matters

ERISA and the Code impose certain duties on persons who are fiduciaries of a Plan subject to Title I of ERISA or Section 4975 of the Code (an "ERISA Plan") and prohibit certain transactions involving the assets of an ERISA Plan and its fiduciaries or other interested parties. Under ERISA and the Code, any person who exercises any discretionary authority or control over the administration of such an ERISA Plan or the management or disposition of the assets of such an ERISA Plan, or who renders investment advice for a fee or other compensation to such an ERISA Plan, is generally considered to be a fiduciary of the ERISA Plan.

In considering an investment in the Notes of a portion of the assets of any Plan, a fiduciary should determine whether the investment is in accordance with the documents and instruments governing the Plan and the applicable provisions of ERISA, the Code or any Similar Law relating to a fiduciary's duties to the Plan including, without limitation, the prudence, diversification, delegation of control and prohibited transaction provisions of ERISA, the Code and any other applicable Similar Laws.

Prohibited Transaction Issues

Section 406 of ERISA and Section 4975 of the Code prohibit ERISA Plans from engaging in specified transactions involving plan assets with persons or entities who are "parties in interest," within the meaning of ERISA, or "disqualified persons," within the meaning of Section 4975 of the Code, unless an exemption is available. A party in interest or disqualified person who engages in a non-exempt prohibited transaction may be subject to excise taxes and other penalties and liabilities under ERISA and the Code. In addition, the fiduciary of the ERISA Plan that engages in such a non-exempt prohibited transaction may be subject to penalties and liabilities under ERISA and the Code. The acquisition and/or holding of the Notes by an ERISA Plan with respect to which we, an initial purchaser or a guarantor is considered a party in interest or a disqualified person may constitute or result in a direct or indirect prohibited transaction under Section 406 of ERISA and/or Section 4975 of the Code, unless the investment is acquired and is held in accordance with an applicable statutory, class or individual prohibited transaction exemption.

In this regard, the U.S. Department of Labor has issued prohibited transaction class exemptions, or "PTCEs," that may apply to the acquisition and/or holding of the Notes. These class exemptions include, without limitation, PTCE 84-14 respecting transactions determined by independent qualified professional asset managers, PTCE 90-1 respecting insurance company pooled separate accounts, PTCE 91-38 respecting bank collective investment funds, PTCE 95-60 respecting life insurance company general accounts, and PTCE 96-23 respecting transactions determined by in-house asset managers. In addition, Section 408(b)(17) of ERISA and Section 4975(d)(20) of the Code provide relief from the prohibited transaction provisions of ERISA and Section 4975 of the Code for certain transactions, provided that neither the issuer of the securities nor any of its affiliates (directly or indirectly) has or exercises any discretionary authority or control or render any investment advice with respect to the assets of any ERISA Plan involved in the transaction and provided further that the ERISA Plan pays no more than adequate consideration in connection with the transaction. There can be no assurance that all of the conditions of any such exemptions will be satisfied.

Because of the foregoing, the Notes should not be purchased or held by any person investing "plan assets" of any Plan, unless such purchase and holding will not constitute a non-exempt prohibited transaction under ERISA and the Code or similar violation of any applicable Similar Laws.

Representation

Accordingly, by the acquisition and/or holding of a note, or any interest in a note, each purchaser and subsequent transferee will be deemed to have represented and warranted that either (i) no portion of the assets used to acquire or hold the note, or any interest therein, constitutes assets of any Plan or (ii) the acquisition and holding of the Notes by such purchaser or transferee will not constitute a non-exempt prohibited transaction under Section 406 of ERISA or Section 4975 of the Code or similar violation under any applicable Similar Laws.

The foregoing discussion is general in nature and is not intended to be all-inclusive. Due to the complexity of these rules and the penalties that may be imposed upon persons involved in non-exempt prohibited transactions, it is particularly important that fiduciaries, or other persons considering purchasing the Notes (and holding the Notes) on behalf of, or with the assets of, any Plan, consult with their counsel regarding the potential applicability of ERISA, Section 4975 of the Code and any Similar Laws to such investment and whether an exemption would be applicable to the purchase and holding of the Notes.

Purchasers of the Notes have the exclusive responsibility for ensuring that their purchase and holding of the Notes complies with the fiduciary responsibility rules of ERISA and does not violate the prohibited transaction rules of ERISA, the Code or applicable Similar Laws. We make no representation as to whether an investment in the Notes is appropriate for any Plan in general or whether such investment is appropriate for any particular plan or arrangement.

BOOK-ENTRY, DELIVERY AND FORM

The notes are being offered and sold to qualified institutional buyers in reliance on Rule 144A ("Rule 144A Notes"). Notes also may be offered and sold in offshore transactions in reliance on Regulation S ("Regulation S Notes"). Except as set forth below, notes will be issued in registered, global form in minimum denominations of $2,000 and integral multiples of $1,000 in excess thereof. Rule 144A Notes initially will be represented by notes in registered, global form without interest coupons (collectively, the "Rule 144A Global Notes"). Regulation S Notes initially will be represented by temporary global notes in registered, global form without interest coupons (collectively, the "Temporary Regulation S Global Notes"). Each Temporary Regulation S Global Note will be exchangeable for a single permanent note in registered, global form (each a "Permanent Regulation S Global Note" and, together with a Temporary Regulation S Global Note, a "Regulation S Global Note" and together with the Rule 144A Global Notes, the "Global Notes") after the expiration of the "distribution compliance period" (as defined in Regulation S) and the certification required by Regulation S. Prior to such time, a beneficial interest in the Temporary Regulation S Global Note may be transferred to a person who takes delivery in the form of an interest in the Rule 144A Global Note only upon receipt by the Trustee of a written certification from the transferor to the effect that such transfer is being made to a person whom the transferor reasonably believes is a "qualified institutional buyer" (as defined in Rule 144A under the Securities Act), or a QIB, in a transaction meeting the requirements of Rule 144A. Beneficial interests in a Rule 144A Global Note may be transferred to a person who takes delivery in the form of an interest in a Regulation S Global Note whether before, on or after such time, only upon receipt by the Trustee of a written certification to the effect that such transfer is being made in accordance with Regulation S. The Global Notes will be deposited upon issuance with the trustee, as custodian for DTC, and registered in the name of DTC or its nominee, in each case for credit to an account of a direct or indirect participant in DTC as described below.

The Global Notes (and any notes issued in exchange therefor) will be subject to certain restrictions on transfer set forth therein and in the indenture and will bear the legend regarding such restrictions set forth under the heading "Notice to Investors" herein. Subject to such restrictions, QIBs or non-U.S. purchasers may elect to take physical delivery of their certificates in registered form (each a "Certificated Security") instead of holding their interests through the Global Notes (and which are then ineligible to trade through DTC) (collectively referred to herein as the "Non-Global Purchasers"). Upon the transfer to a QIB of any Certificated Security initially issued to a Non-Global Purchaser, such Certificated Security will, unless the transferee requests otherwise or the Global Notes have previously been exchanged in whole for Certificated Securities, be exchanged for an interest in the Global Notes. For a description of the restrictions on transfer of Certificated Securities and any interest in the Global Notes, see "Notice to Investors."

The Global Notes

We expect that, pursuant to procedures established by DTC, (i) upon the issuance of the Global Notes, DTC or its custodian will credit, on its internal system, the principal amount of the individual beneficial interests represented by such Global Notes to the respective accounts of persons who have accounts with such depositary ("participants") and (ii) ownership of beneficial interests in the Global Notes will be shown on, and the transfer of such ownership will be effected only through, records maintained by DTC or its nominee (with respect to interests of participants) and the records of participants (with respect to interests of persons other than participants). Such accounts initially will be designated by or on behalf of the initial purchasers and ownership of beneficial interests in the Global Notes will be limited to participants or persons who hold interests through participants. Holders may hold their interests in the Global Notes directly through DTC if they are participants in such system, or indirectly through organizations which are participants in such system.

So long as DTC or its nominee is the registered owner or holder of the Notes, DTC or such nominee, as the case may be, will be considered the sole owner or holder of the notes represented by such Global Notes for all purposes under the indenture. No beneficial owner of an interest in the Global Notes will be able to transfer that interest except in accordance with DTC's procedures, in addition to those provided for under the indenture with respect to the Notes.

Payments of the principal of, premium (if any) and interest on, the Global Notes will be made to DTC or its nominee, as the case may be, as the registered owner thereof. Neither we, the trustee nor any paying agent will have any responsibility or liability for any aspect of the records relating to or payments made on account of beneficial ownership interests in the Global Notes or for maintaining, supervising or reviewing any records relating to such beneficial ownership interest.

We expect that DTC or its nominee, upon receipt of any payment of principal of, and premium (if any) and interest on the Global Notes, will credit participants' accounts with payments in amounts proportionate to their respective beneficial interests in the principal amount of the Global Notes as shown on the records of DTC or its nominee. We also expect that payments by participants to owners of beneficial interests in the Global Notes held through such participants will be governed by standing instructions and customary practice, as is now the case with securities held for the accounts of customers, registered in the names of nominees for such customers. Such payments will be the responsibility of such participants.

Transfers between participants in DTC will be effected in the ordinary way through DTC's same-day funds system in accordance with DTC rules and will be settled in same-day funds. If a holder requires physical delivery of a Certificated Security for any reason, including to sell notes to persons in states that require physical delivery of the notes, or to pledge such securities, such holder must transfer its interest in a Global Note, in accordance with the normal procedures of DTC and with the procedures set forth in the indenture.

DTC has advised us that it will take any action permitted to be taken by a holder of notes (including the presentation of notes for exchange as described below) only at the direction of one or more participants to whose account the DTC interests in the Global Notes are credited and only in respect of such portion of the aggregate principal amount of notes as to which such participant or participants has or have given such direction. However, if there is an event of default under the indenture, DTC will exchange the applicable Global Notes for Certificated Securities, which it will distribute to its participants and which will be legended as set forth under the heading "Notice to Investors."

DTC has advised us as follows: DTC is a limited purpose trust company organized under the laws of the State of New York, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the Uniform Commercial Code and a "Clearing Agency" registered pursuant to the provisions of Section 17A of the Exchange Act. DTC was created to hold securities for its participants and facilitate the clearance and settlement of securities transactions between participants through electronic book-entry changes in accounts of its participants, thereby eliminating the need for physical movement of certificates. Participants include securities brokers and dealers, banks, trust companies and clearing corporations and certain other organizations. Indirect access to the DTC system is available to others such as banks, brokers, dealers and trust companies that clear through or maintain a custodial relationship with a participant, either directly or indirectly.

Although DTC has agreed to the foregoing procedures in order to facilitate transfers of interests in the Global Notes among participants of DTC they are under no obligation to perform such procedures, and such procedures may be discontinued at any time. Neither we nor the trustee will have any responsibility or liability for the performance by DTC or its participants or indirect participants of its obligations under the rules and procedures governing their operations.

Certificated Securities

Certificated Securities shall be issued in exchange for beneficial interests in the Global Notes (i) if requested by a holder of such interests that is a Non-Global Purchaser or (ii) if DTC is at any time unwilling or unable to continue as a depositary for the Global Notes and a successor depositary is not appointed by us within 90 days.

NOTICE TO INVESTORS

The Notes have not been registered under the Securities Act or any securities laws of any jurisdiction, and may not be offered or sold, except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of, the Securities Act and such other securities laws. Accordingly, the Notes are being offered hereby only (1) to "qualified institutional buyers" (as defined in Rule 144A under the Securities Act) in reliance on the exemption from the registration requirements of the Securities Act provided by Rule 144A and (2) outside of the United States in reliance upon Regulation S under the Securities Act, to non-U.S. persons who will be required to make certain representations to us and others prior to the investment in the Notes.

Each purchaser of the Notes that is purchasing in a sale made in reliance on Rule 144A or Regulation S will be deemed to have represented and agreed as follows:

(1) The purchaser

  (a) (i) is a qualified institutional buyer and is aware that the sale to it is being made in reliance on Rule 144A and (ii) is acquiring the Notes for its own account or for the account of another qualified institutional buyer, or

  (b) is not a U.S. person, as such term is defined in Rule 902 under the Securities Act, and is purchasing the Notes in accordance with Regulation S.

(2) The purchaser understands that the Notes are being offered in transactions not involving any public offering in the United States within the meaning of the Securities Act, that the Notes have not been registered under the Securities Act or any securities laws of any jurisdiction and that

  (a) the Notes may be offered, resold, pledged or otherwise transferred only (i) to a person who is a qualified institutional buyer in a transaction meeting the requirements of Rule 144A, in a transaction meeting the requirements of Rule 144, outside the United States to a non-U.S. person in a transaction meeting the requirements of Rule 904 under the Securities Act, or in accordance with another exemption from the registration requirements of the Securities Act (and based upon an opinion of counsel, if we so request), (ii) to us or (iii) pursuant to an effective registration statement and, in each case, in accordance with any applicable securities laws of any state of the United States or any other applicable jurisdiction, and

  (b) the purchaser will, and each subsequent holder is required to, notify any subsequent purchaser from it of the resale restrictions set forth in (a) above.

(3) The purchaser confirms that

  (a) such purchaser has such knowledge and experience in financial and business matters, that it is capable of evaluating the merits and risks of purchasing the Notes and that such purchaser and any accounts for which it is acting are each able to bear the economic risks of its or their investment,

  (b) such purchaser is not acquiring the Notes with a view towards any distribution thereof in a transaction that would violate the Securities Act or the securities laws of any state of the United States or any other applicable jurisdiction; *provided* that the disposition of its property and the property of any accounts for which such purchaser is acting as fiduciary will remain at all times within its control, and

  (c) such purchaser has received a copy of this offering memorandum and acknowledges that such purchaser has had access to such financial and other information and has been afforded an opportunity to ask such questions of our representative and receive answers thereto as it has deemed necessary in connection with its decision to purchase the Notes.

(4) The purchaser understands that the certificates evidencing the Notes will, unless otherwise agreed by us and the holder thereof, bear a legend substantially to the following effect:

"THE SECURITY (OR ITS PREDECESSOR) EVIDENCED HEREBY WAS ORIGINALLY ISSUED IN A TRANSACTION EXEMPT FROM REGISTRATION UNDER SECTION 5 OF THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND THE SECURITY EVIDENCED HEREBY MAY NOT BE OFFERED, SOLD OR OTHERWISE TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR AN APPLICABLE EXEMPTION THEREFROM. EACH PURCHASER OF THE SECURITY EVIDENCED HEREBY IS HEREBY NOTIFIED THAT THE SELLER MAY BE RELYING ON THE EXEMPTION FROM THE PROVISIONS OF SECTION 5 OF THE SECURITIES ACT PROVIDED BY RULE 144A THEREUNDER. THE HOLDER OF THE SECURITY EVIDENCED HEREBY AGREES FOR THE BENEFIT OF THE COMPANY THAT (A) SUCH SECURITY MAY BE RESOLD, PLEDGED OR OTHERWISE TRANSFERRED, ONLY (1)(a) INSIDE THE UNITED STATES TO A PERSON WHO THE SELLER REASONABLY BELIEVES IS A QUALIFIED INSTITUTIONAL BUYER (AS DEFINED IN RULE 144A UNDER THE SECURITIES ACT) PURCHASING FOR ITS OWN ACCOUNT OR FOR THE ACCOUNT OF A QUALIFIED INSTITUTIONAL BUYER IN A TRANSACTION MEETING THE REQUIREMENTS OF RULE 144A UNDER THE SECURITIES ACT, (b) OUTSIDE THE UNITED STATES TO A FOREIGN PERSON IN A TRANSACTION MEETING THE REQUIREMENTS OF RULE 903 OR RULE 904 OF REGULATION S UNDER THE SECURITIES ACT, (c) PURSUANT TO AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT PROVIDED BY RULE 144 THEREUNDER (IF APPLICABLE) OR (d) IN ACCORDANCE WITH ANOTHER EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT (AND BASED UPON AN OPINION OF COUNSEL ACCEPTABLE TO THE COMPANY IF THE COMPANY SO REQUESTS), (2) TO THE COMPANY OR (3) PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT AND, IN EACH CASE, IN ACCORDANCE WITH ANY APPLICABLE SECURITIES LAWS OF ANY STATE OF THE UNITED STATES OR ANY OTHER APPLICABLE JURISDICTION AND (B) THE HOLDER WILL, AND EACH SUBSEQUENT HOLDER IS REQUIRED TO, NOTIFY ANY PURCHASER OF THE SECURITY EVIDENCED HEREBY OF THE RESALE RESTRICTIONS SET FORTH IN CLAUSE (A) ABOVE. NO REPRESENTATION CAN BE MADE AS TO THE AVAILABILITY OF THE EXEMPTION PROVIDED BY RULE 144 FOR RESALE OF THE SECURITY EVIDENCED HEREBY."

(5) Either (i) the purchaser is not acquiring or holding such note or interest therein with the assets of (A) an "employee benefit plan" (as defined in Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended ("ERISA")) that is subject to ERISA, (B) a "plan" that is subject to Section 4975 of the Code, (C) any entity deemed under ERISA to hold "plan assets" of any of the foregoing by reason of an employee benefit plan's or plan's investment in such entity, or (D) a governmental plan, church plan or non-U.S. plan subject to applicable law that is similar in purpose or effect to the fiduciary responsibility or prohibited transaction provisions of ERISA or Section 4975 of the Code ("Similar Law"); or (ii) the acquisition and holding of such note or interest therein by the purchaser will not constitute or result in a non-exempt prohibited transaction under Section 406 of ERISA or Section 4975 of the Code or a violation under any applicable Similar Law.

(6) The purchaser acknowledges that we and the initial purchasers and others will rely upon the truth and accuracy of the foregoing acknowledgements, representations and agreements and agrees that, if any of the foregoing acknowledgements, representations and agreements deemed to have been made by it are no longer accurate, it will promptly notify the initial purchasers. If such purchaser is acquiring the Notes as a fiduciary or agent for one or more investor accounts, such purchaser represents that it has sole investment discretion with respect to each such account and that it has full power to make the foregoing acknowledgements, representations and agreements on behalf of each such account.

PLAN OF DISTRIBUTION

We have entered into a purchase agreement with respect to the offer and sale of the Notes with the Initial Purchasers named below and for whom Citigroup Global Markets Inc. is acting as Representative. Subject to certain conditions, each individual Initial Purchaser has severally agreed to purchase the principal amount of Notes indicated in the following table.

Initial Purchasers	Principal Amount of Notes
Citigroup Global Markets Inc.	
Credit Suisse Securities (USA) LLC	
Morgan Stanley & Co. LLC	
J.P. Morgan Securities LLC	
Jefferies LLC	
Goldman, Sachs & Co.	
Deutsche Bank Securities Inc.	
KeyBanc Capital Markets Inc.	
Total	$500,000,000

The purchase agreement provides that the Initial Purchasers are obligated to purchase all of the Notes if any are purchased. The purchase agreement also provides that if an Initial Purchaser defaults the purchase commitments of non-defaulting Initial Purchasers may be increased or the offering may be terminated. The Initial Purchasers propose to offer the Notes initially at the offering price on the cover page of this offering memorandum and may also offer the Notes to selling group members at the offering price less a selling concession. After the initial offering, the offering price may be changed.

The Notes have not been and will not be registered under the Securities Act and may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons except to qualified persons reasonably believed to be institutional buyers in reliance on Rule 144A under the Securities Act and to persons in offshore transactions in reliance on Regulation S under the Securities Act. Each of the Initial Purchasers have agreed that, except as permitted by the purchase agreement, it will not offer, sell or deliver the Notes (i) as part of its distribution at any time or (ii) otherwise until 40 days after the later of the commencement of the offering and the closing date, within the United States or to, or for the account or benefit of, U.S. persons, and it will have sent to each broker/dealer to which it sells Notes in reliance on Regulation S during such 40-day period, a confirmation or other notice detailing the restrictions on offers and sales of the Notes within the United States or to, or for the account or benefit of, U.S. persons. Terms used in this paragraph have the meanings given to them by Regulation S under the Securities Act. Resales of the Notes are restricted as described under "Transfer Restrictions."

In addition, until 40 days after the commencement of the offering, an offer or sale of Notes within the United States by a broker/dealer (whether or not it is participating in the offering), may violate the registration requirements of the Securities Act if such offer or sale is made otherwise than pursuant to Rule 144A.

Canada

The Notes may be sold in Canada only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the Notes must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this offering memorandum (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the Initial Purchasers are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

Hong Kong

The Notes may not be offered or sold by means of any document other than:

(a) in circumstances which do not constitute an offer to the public within the meaning of the Companies Ordinance (Cap.32, Laws of Hong Kong);

(b) to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap.571, Laws of Hong Kong) and any rules made thereunder; or

(c) in other circumstances which do not result in the document being a "prospectus" within the meaning of the Companies Ordinance (Cap.32, Laws of Hong Kong), and no advertisement, invitation or document relating to the Notes may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the laws of Hong Kong) other than with respect to Notes which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder.

Singapore

This offering memorandum has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this offering memorandum and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the Notes may not be circulated or distributed, nor may the Notes be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than:

(a) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore (the "SFA");

(b) to a relevant person, or any person pursuant to Section 275(1A), and in accordance with the conditions, specified in Section 275 of the SF; or

(c) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the Notes are subscribed or purchased under Section 275 by a relevant person which is:

(a) a corporation (which is not an accredited investor) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or

(b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary is an accredited investor, shares, debentures and units of shares and debentures of that corporation or the beneficiaries' rights and interest in that trust shall not be transferable for 6 months after that corporation or that trust has acquired the Notes under Section 275 except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person, or any person pursuant to Section 275(1A), and in accordance with the conditions, specified in Section 275 of the SFA; (2) where no consideration is given for the transfer or (3) by operation of law.

Japan

The Notes have not been and will not be registered under the Financial Instruments and Exchange Law of Japan (the Financial Instruments and Exchange Law) and each Initial Purchaser has agreed that it will not offer or sell any Notes, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to others for re-offering or resale, directly or indirectly, in Japan or to a resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Financial Instruments and Exchange Law and any other applicable laws, regulations and ministerial guidelines of Japan.

United Kingdom

Each initial purchaser has represented and agreed that:

(a) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000 (the "FSMA")) received by it in connection with the issue or sale of the Notes in circumstances in which Section 21(1) of the FSMA does not apply to us; and

(b) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the Notes in, from or otherwise involving the United Kingdom.

European Economic Area

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a "Relevant Member State"), each initial purchaser has represented and agreed that an offer to the public of any Notes which are the subject of the offering contemplated herein may not be made in that Relevant Member State, except that an offer to the public in that Relevant Member State of any notes may be made at any time under the following exemptions under the Prospectus Directive, if they have been implemented in that Relevant Member State:

(a) to legal entities which are qualified investors as defined under the Prospectus Directive;

(b) by the Initial Purchasers to fewer than 100, or, if the Relevant Member State has implemented the relevant provisions of the 2010 PD Amending Directive, 150, natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the Representative of the Initial Purchasers for any such offer; or

(c) in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of notes shall result in a requirement for us or any Initial Purchaser to publish a prospectus pursuant to Article 3 of the Prospectus Directive or supplement a prospectus pursuant to Article 16 of the Prospectus Directive.

Each person in a Relevant Member State who receives any communication in respect of, or who acquires any notes under, the offers contemplated here in this offering memorandum will be deemed to have represented, warranted and agreed to and with each Initial Purchaser and us that:

(a) it is a qualified investor as defined under the Prospectus Directive; and

(b) in the case of any notes acquired by it as a financial intermediary, as that term is used in Article 3(2) of the Prospectus Directive, (i) the notes acquired by it in the offering have not been acquired on behalf of, nor have they been acquired with a view to their offer or resale to, persons in any Relevant Member State other than qualified investors, as that term is defined in the Prospectus Directive, or in the circumstances in which the prior consent of the Representative of the Initial Purchasers has been given to the offer or resale or (ii) where notes have been acquired by it on behalf of persons in any Relevant Member State other than qualified investors, the offer of such notes to it is not treated under the Prospectus Directive as having been made to such persons.

For the purposes of this representation and the provision above, the expression an "offer of notes to the public" in relation to any notes in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any notes to be offered so as to enable an investor to decide to purchase or subscribe for the notes, as the same may be varied in that Relevant Member State by any measure implementing the Prospectus Directive in that Relevant Member State, the expression "Prospectus Directive" means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State), and includes any relevant implementing measure in each Relevant Member State and the expression "2010 PD Amending Directive" means Directive 2010/73/EU

General

We have agreed that we will not offer, sell, contract to sell, pledge or otherwise dispose of, directly or indirectly, or file with the SEC a registration statement under the Securities Act relating to, any U.S. dollar-denominated debt securities issued or guaranteed by us and having a maturity of more than one year from the date of issue, or publicly disclose our intention to make any offer, sale, pledge, disposition or filing, without the prior written consent of Citigroup Global Markets Inc. for a period of 90 days after the date of this offering memorandum.

We have agreed to indemnify the several Initial Purchasers against liabilities or to contribute to payments which it may be required to make in that respect.

The Notes are a new issue of securities for which there currently is no market. The Initial Purchasers have advised us that they intend to make a market in the Notes as permitted by applicable law. They are not obligated, however, to make a market in the Notes and any market-making may be discontinued at any time at their sole discretion. Accordingly, no assurance can be given as to the development or liquidity of any market for the Notes.

The Initial Purchasers may engage in over-allotment, stabilizing transactions, covering transactions and penalty bids in accordance with Regulation M under the Exchange Act.

- Over-allotment involves sales in excess of the offering size, which creates a short position for the Initial Purchasers.
- Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum.
- Covering transactions involve purchases of the Notes in the open market after the distribution has been completed in order to cover short positions.
- Penalty bids permit the Initial Purchasers to reclaim a selling concession from a broker/dealer when the Notes originally sold by such broker/dealer are purchased in a stabilizing or covering transaction to cover short positions.

These stabilizing transactions, covering transactions and penalty bids may cause the price of the Notes to be higher than it would otherwise be in the absence of these transactions. These transactions, if commenced, may be discontinued at any time.

The Initial Purchasers are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal investment, hedging, financing and brokerage activities. Certain of the Initial Purchasers and their respective affiliates have in the past performed commercial banking, investment banking and advisory services for us from time to time for which they have received customary fees and reimbursement of expenses and, in the future, may act or continue to act as agents and/or lenders to us, for which services they have received or expect to receive customary compensation, including under the Senior Secured Credit Facilities.

In the ordinary course of their various business activities, the Initial Purchasers and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (which may include bank loans and/or credit default swaps) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The Initial Purchasers and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

LEGAL MATTERS

Weil, Gotshal & Manges LLP, New York, New York, has passed upon the validity of the Notes on behalf of the Issuer. Certain legal matters will be passed upon for the initial purchasers by Latham & Watkins LLP, New York, New York.

INDEPENDENT AUDITORS

The consolidated financial statements of PQ Holdings Inc. as of December 31, 2015 and 2014 and for the three years ended December 31, 2015 included in this offering memorandum have been audited by PricewaterhouseCoopers LLP, independent accountants, as stated in their report appearing herein.

The consolidated financial statements of Eco Services Operations LLC (a wholly-owned subsidiary of Eco Services Intermediate Holdings LLC) as of December 31, 2015 and for the year ended December 31, 2015 included in this offering memorandum have been audited by PricewaterhouseCoopers LLP, independent accountants, as stated in their report appearing herein.

The financial statements of Eco Services Operations, LLC as of December 31, 2014 and for the period from inception (July 30, 2014) to December 31, 2014 (Successor), and of Eco Services, a component of Solvay USA Inc. (Predecessor), for the year ended December 31, 2013 and for the period from January 1, 2014 through November 30, 2014 included in this Offering Memorandum, have been audited by Deloitte & Touche LLP, independent auditors as stated in their report appearing herein (which report expresses an unqualified opinion and includes an emphasis of matter paragraph referring to the "carve out" of the Predecessor financial statements from Solvay USA Inc.).

WHERE YOU CAN FIND MORE INFORMATION

This offering memorandum contains summaries of certain of our agreements. The descriptions contained in this offering memorandum of these agreements do not purpose to be complete and are subject to, or qualified in their entirety by reference to, the definitive agreements.

You may obtain a copy of any of these documents at no cost, by writing or telephoning us at the following

300 Lindenwood Drive,
Valleybrooke Corporate Center,
Malvern, Pennsylvania 19355
(610) 651-4400

INDEX TO FINANCIAL STATEMENTS

PQ Holding Inc.

Audited Consolidated Financial Statements

Eco Services Operations LLC

Audited Consolidated Financial Statements

INDEPENDENT AUDITOR'S REPORT

To the Board of Directors
PQ Holdings Inc. and Subsidiaries:

We have audited the accompanying consolidated financial statements of PQ Holdings Inc. and its subsidiaries, which comprise the consolidated balance sheets as of December 31, 2015 and 2014, and the related consolidated statements of operations, comprehensive income (loss), stockholders' equity and cash flows for the three years in the period ended December 31, 2015.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on the consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the Company's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of PQ Holdings Inc. and its subsidiaries as of December 31, 2015 and 2014, and the results of their operations and their cash flows for the three years in the period ended December 31, 2015 in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter

As discussed in Note 3 to the consolidated financial statements, the Company changed the manner in which it classifies deferred taxes in 2015 due to the adoption of Accounting Standards Update 2015-17, Balance Sheet Classification of Deferred Taxes and in which it classifies deferred finance costs in 2015 due to the adoption of Accounting Standards Update 2015-03, Simplifying the Presentation of Debt Issuance Costs. Our opinion is not modified with respect to this matter.

/s/ PricewaterhouseCoopers LLP
PricewaterhouseCoopers LLP
March 5, 2016

PricewaterhouseCoopers LLP, Two Commerce Square, Suite 1700, 2001 Market Street, Philadelphia, PA 19103-7042
T: (267) 300-3000, F: (267) 330-3300, www.pwc.com/us

PQ HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(in thousands)

	December 31, 2015	December 31, 2014
ASSETS		
Cash and cash equivalents	$ 53,507	$ 100,836
Receivables, net	117,438	122,577
Inventories	197,093	189,286
Prepaid and other current assets	19,006	18,733
Total current assets	387,044	431,432
Investments in affiliated companies	224,480	202,745
Property, plant and equipment, net	569,168	546,716
Goodwill	717,460	721,341
Tradenames	104,415	108,972
Other intangible assets, net	219,617	251,403
Other long-term assets	45,900	47,653
Total assets	$2,268,084	$2,310,262
LIABILITIES		
Notes payable and current maturities of long-term debt	$ 14,508	$ 14,534
Accounts payable	104,645	102,717
Accrued liabilities	73,497	78,098
Total current liabilities	192,650	195,349
Long-term debt	1,789,255	1,792,870
Deferred income taxes	113,197	114,485
Other long-term liabilities	96,865	110,010
Total liabilities	2,191,967	2,212,714
Commitments and contingencies (Note 20)		
EQUITY		
Common stock, Class A ($0.01 par); authorized shares 150,000,000; issued shares 680,678; outstanding shares 582,280 and 582,593 on December 31, 2015 and December 31, 2014, respectively	6	6
Common stock, Class B ($0.01 par); authorized shares 30,000,000; issued shares 5,100,795; outstanding shares 5,087,995 on December 31, 2015 and December 31, 2014, respectively	51	51
Common stock, Class C ($0.01 par); authorized shares 10,000,000; issued shares 48,820; outstanding shares 48,820 on December 31, 2015 and December 31, 2014, respectively	—	—
Common stock, Class D ($0.01 par); authorized shares 1,500,000; issued shares 84,258 and 5,800; outstanding shares 84,258 and 5,800 on December 31, 2015 and December 31, 2014, respectively	1	—
Additional paid-in capital	466,476	459,819
Accumulated deficit	(264,013)	(271,864)
Treasury stock, at cost; shares 98,398 and 98,085 (Class A), 12,800 (Class B), 0 (Class C), 0 (Class D) on December 31, 2015 and December 31, 2014, respectively	(916)	(916)
Accumulated other comprehensive loss	(131,973)	(96,637)
Total PQ Holdings Inc. equity	69,632	90,459
Noncontrolling interest	6,485	7,089
Total equity	76,117	97,548
Total liabilities and equity	$2,268,084	$2,310,262

See accompanying notes to consolidated financial statements.

PQ HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands)

	Twelve months ended December 31,		
	2015	2014	2013
Sales	$1,024,326	$1,114,904	$1,085,019
Cost of goods sold	748,756	818,483	795,416
Gross profit	275,570	296,421	289,603
Selling, general and administrative expenses	107,097	110,886	111,229
Other operating expense, net	51,516	71,148	49,373
Operating income	116,957	114,387	129,001
Equity in net income from affiliated companies	45,325	29,359	53,808
Interest expense	108,375	111,553	120,347
Debt extinguishment costs	—	2,476	20,287
Other expense, net	21,383	23,886	3,316
Income before income taxes and noncontrolling interest	32,524	5,831	38,859
Provision for income taxes	22,902	7,548	10,608
Net income (loss)	9,622	(1,717)	28,251
Less: Net income attributable to the noncontrolling interest	1,771	1,894	1,521
Net income (loss) attributable to PQ Holdings Inc.	$ 7,851	$ (3,611)	$ 26,730

See accompanying notes to consolidated financial statements.

PQ HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE (LOSS) INCOME
(in thousands)

	Twelve months ended December 31,		
	2015	2014	2013
Net income (loss)	$ 9,622	$ (1,717)	$ 28,251
Other comprehensive (loss) income, net of tax:			
Pension and postretirement benefits	1,776	(18,411)	17,265
Net gain (loss) from hedging activities	257	(2,426)	1,700
Foreign currency translation	(38,415)	(24,883)	(17,774)
Total other comprehensive (loss) income	(36,382)	(45,720)	1,191
Comprehensive (loss) income	(26,760)	(47,437)	29,442
Less: Comprehensive income attributable to non-controlling interests	725	1,056	1,620
Comprehensive (loss) income attributable to PQ Holdings Inc.	$(27,485)	$(48,493)	$ 27,822

See accompanying notes to consolidated financial statements.

PQ HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands)

	Common stock, Class A	Common stock, Class B	Common stock, Class C	Common stock, Class D	Additional paid-in capital	Accumulated deficit	Treasury stock, at cost	Accumulated other comprehensive income (loss)	Noncontrolling interest	Total
Balance, December 31, 2012	$ 7	$ 51	$—	$—	$458,807	$(294,983)	$(731)	$ (52,847)	$ 7,059	$117,363
Net income	—	—	—	—	—	26,730	—	—	1,521	28,251
Other comprehensive income	—	—	—	—	—	—	—	1,092	99	1,191
Stock repurchase	(1)	—	—	—	1	—	(185)	—	—	(185)
Dividend distribution	—	—	—	—	—	—	—	—	(745)	(745)
Stock compensation for restricted stock awards	—	—	—	—	1,011	—	—	—	—	1,011
Balance, December 31, 2013	$ 6	$ 51	$—	$—	$459,819	$(268,253)	$(916)	$ (51,755)	$ 7,934	$146,886
Net income	—	—	—	—	—	(3,611)	—	—	1,894	(1,717)
Other comprehensive loss	—	—	—	—	—	—	—	(44,882)	(838)	(45,720)
Dividend distribution	—	—	—	—	—	—	—	—	(1,901)	(1,901)
Stock compensation for restricted stock awards	—	—	—	—	—	—	—	—	—	—
Balance, December 31, 2014	$ 6	$ 51	$—	$—	$459,819	$(271,864)	$(916)	$ (96,637)	$ 7,089	$ 97,548
Net income	—	—	—	—	—	7,851	—	—	1,771	9,622
Other comprehensive loss	—	—	—	—	—	—	—	(35,336)	(1,046)	(36,382)
Equity contribution	—	—	—	1	3,299	—	—	—	—	3,300
Dividend distribution	—	—	—	—	—	—	—	—	(1,329)	(1,329)
Stock compensation for restricted stock awards	—	—	—	—	3,358	—	—	—	—	3,358
Balance, December 31, 2015	$ 6	$ 51	$—	$ 1	$466,476	$(264,013)	$(916)	$(131,973)	$ 6,485	$ 76,117

See accompanying notes to consolidated financial statements.

PQ HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Twelve months ended December 31, 2015	2014	2013
Cash flows from operating activities:			
Net income (loss)	$ 9,622	$ (1,717)	$ 28,251
Adjustments to reconcile net income to net cash used in operating activities:			
Depreciation	62,586	59,904	57,089
Amortization	30,536	31,438	32,217
Impairment of long-lived assets	425	—	948
Amortization of deferred financing costs and original issue discount	8,735	8,899	9,427
Hedge premium amortization	398	1,434	1,778
Debt extinguishment costs	—	2,476	20,287
Foreign currency exchange loss	21,059	23,387	4,414
Pension and postretirement healthcare benefit expense	3,631	1,672	3,281
Pension and postretirement healthcare benefit funding	(4,607)	(6,957)	(6,877)
Deferred income tax provision (benefit)	7,664	(10,478)	(6,644)
Net loss on asset disposals	1,548	694	653
Supplemental pension plan mark-to-market loss (gain)	231	(798)	(930)
Stock compensation	3,358	—	1,011
Equity in net income from affiliated companies, net	(45,325)	(29,359)	(53,808)
Dividends received from affiliated companies	30,089	34,255	33,050
Working capital changes that (used) provided cash:			
Receivables	(4,946)	(1,816)	1,995
Inventories	(17,535)	(2,283)	(16,710)
Prepaids and other current assets	(2,663)	(2,743)	983
Accounts payable	3,252	5,164	6,732
Accrued liabilities	(8,440)	7,639	(344)
Other, net	(722)	(401)	(905)
Net cash provided by operating activities	98,896	120,410	115,898
Cash flows from investing activities:			
Purchases of property, plant and equipment	(103,118)	(120,932)	(73,221)
Investment in affiliated companies	(10,000)	(10,000)	(18,000)
Decreases in restricted cash, net	—	16,890	(16,890)
Business acquisitions, net of cash acquired	(12,000)	—	—
Loan receivable under the New Market Tax Credit arrangement	—	—	(15,632)
Other, net	(26)	10	(1,615)
Net cash used in investing activities	(125,144)	(114,032)	(125,358)
Cash flows from financing activities:			
Draw down of revolver	68,000	—	—
Repayments of revolver	(68,000)	—	—
Issuance of long-term debt under the New Market Tax Credit arrangement	—	—	20,175
Issuance of long-term debt, net of original issue discount	—	1,222,114	1,222,800
Debt issuance costs	—	—	(1,771)
Repayments of long-term debt	(12,350)	(1,235,000)	(1,232,350)
Interest hedge premium		—	(995)
Equity contribution	3,300	—	—
Stock repurchase	—	—	(185)
Distributions to noncontrolling interests	(1,329)	(1,901)	(745)
Net cash (used in) provided by financing activities	(10,379)	(14,787)	6,929
Effect of exchange rate changes on cash	(10,702)	(8,504)	(4,171)
Net change in cash and cash equivalents	(47,329)	(16,913)	(6,702)
Cash and cash equivalents at beginning of period	100,836	117,749	124,451
Cash and cash equivalents at end of period	$ 53,507	$ 100,836	$ 117,749
Non-cash investing activity:			
Capital expenditures acquired on account but unpaid as of the period end	21,897	15,042	16,820

See accompanying notes to consolidated financial statements.

1. Background and Basis of Presentation:

PQ Holdings Inc. and subsidiaries (the "Company") conducts operations through three principal businesses: Performance Chemicals: a fully integrated, global leader in silicate technology, producing sodium silicate, specialty silicas, zeolites, spray dry silicates, magnesium silicate, and other high performance chemical products used in a variety of end-uses such as adsorbents for surface coatings, clarifying agents for beverages, cleaning and personal care products; Catalysts: an integrated silica catalyst and specialty zeolite-based catalyst producer with leading global market positions, producing silica catalyst used in the production of high-density polyethylene ("HDPE"), and specialty zeolite-based catalysts sold to the emissions control industry, the petrochemical industry and other areas of the broader chemicals industry; and Specialty Glass Materials: a leading global producer of engineered glass products for use in highway safety, polymer additives, metal finishing and electronics end markets, which is comprised of Highway Safety and Engineered Glass Materials ("EGM"). Highway Safety manufactures glass beads used for airport, highway and road safety applications to improve visibility in wet and nighttime driving conditions, where EGM produces solid and hollow glass spheres for use as polymer additives and fillers in specialized plastics, as engineered peening beads in metal finishing and as conductives in consumer electronics and other applications.

We experience some seasonality, primarily with respect to the Specialty Glass Materials business. As the road striping season occurs during warmer weather, sales and earnings are generated primarily during the second and third quarters. Working capital is built during the first half of the year, while cash generation occurs primarily in the second half of the fiscal year.

On May 31, 2007, PQ Corporation and its parent company, Niagara Holdings, Inc., entered into an Agreement and Plan of Merger with affiliates of The Carlyle Group ("2007 Sponsor"), including CPQ Holdings LLC ("CPQ Holdings"),and an affiliate of the previous owner of the Company, J.P. Morgan Partners, pursuant to which PQ Corporation continued as the surviving corporation and an indirect, wholly-owned subsidiary of CPQ Holding Corporation, which was a direct, wholly-owned subsidiary of CPQ Holdings (the "2007 Merger"). The 2007 Merger was consummated on July 30, 2007.

On July 2, 2008, the Company acquired certain assets and liabilities from and certain stock of the entities that comprised INEOS Silicas, a division of INEOS Group that was a global manufacturer of inorganic chemicals based on silica and alumina technology, from INEOS Capital Partners, formerly named INEOS Investments Partnership ("INEOS") in exchange for cash and shares of CPQ Holding Corporation (the "2008 INEOS Silicas Acquisition"). After the closing of the 2008 INEOS Silicas Acquisition, INEOS Silicas was incorporated into the Performance Chemicals and Catalyst divisions of the Company. Since July 2, 2008, the financial statements include the results of operations of the acquired business.

On January 29, 2014, CPQ Holding Corporation changed its name to PQ Holdings Inc. ("Holdings").

On September 11, 2014, Holdings entered into a stock purchase agreement (as amended on November 18, 2014) pursuant to which affiliates of CCMP Capital Advisors, LLC ("CCMP" or "2014 Sponsor") and INEOS, one of the existing stockholders of Holdings, acquired stock of Holdings from CPQ Holdings and certain other selling stockholders (the "2014 Stock Purchase"). The 2014 Stock Purchase was consummated on December 29, 2014. Following consummation of the sale, The Carlyle Group no longer holds any shares of Holdings. The 2014 Stock Purchase did not qualify as a business combination.

On August 18, 2015, the Company announced that Eco Services Holdings LLC ("*Eco Services*"), the Company and certain of their respective affiliates had signed a definitive agreement (the "*Business Combination*

Agreement") pursuant to which the Company and Eco Services will reorganize under a newly formed holding company (the "*Combined Company*"). The Combined Company will retain the PQ Corporation name. The Company's existing indirect shareholders (affiliates of CCMP Capital Advisors, LLC ("*CCMP*"), affiliates of INEOS Capital Partners and management) and Eco Services' existing indirect equity holders (affiliates of CCMP and management) will constitute the sole shareholders of the Combined Company immediately following the closing of the business combination. The completion of the transactions is subject to certain closing conditions that are customary for transactions of this type, including regulatory clearance.

2. Summary of Significant Accounting Policies:

Principles of Consolidation. The consolidated financial statements include the accounts of the Company and its controlled subsidiaries. Investments in affiliated companies are recorded at cost plus the Company's equity in their undistributed earnings. All intercompany transactions have been eliminated.

All assets and liabilities of foreign subsidiaries and affiliated companies are translated to U.S. dollars using exchange rates in effect at the balance sheet date. Adjustments resulting from translation of the balance sheets and intercompany loans, which are considered permanent, are included in stockholders' equity as part of accumulated other comprehensive loss. Adjustments resulting from translation of certain intercompany loans, which are not considered permanent and are denominated in foreign currencies, are included in other expense (income), net in the consolidated statement of operations. Income and expense items are translated at average exchange rates during the year. Net foreign exchange included in other expense, net was a loss of $21,059, $23,387, and $4,414 for the years ended December 31, 2015, 2014, and 2013, respectively. The foreign currency losses realized in 2015, 2014, and 2013, were primarily driven by the non-permanent intercompany debt denominated in local currency translated to U.S. dollars.

Cash and Cash Equivalents. Cash and cash equivalents include investments with original terms to maturity of 90 days or less from the time of purchase.

Restricted Cash. Restricted cash, which is restricted as to withdrawal or usage, is classified separately from cash and cash equivalents on our consolidated balance sheet. The proceeds from the New Markets Tax Credit ("NMTC") financing arrangement are restricted for use and are classified on our consolidated balance sheet as a noncurrent asset. As of December 31, 2013, there remained $16,890 restricted cash that is required to be used to fund the capital expenditure associated with the NMTC agreement and is recorded in other long-term assets on the consolidated balance sheet. During 2014, the balance was fully used to fund the capital expenditure associated with the NMTC agreement. See Note 13 to these consolidated financial statements for further information.

Accounts Receivable and Allowance for Doubtful Accounts. Trade accounts receivable are recorded at the invoiced amount and do not bear interest. The allowance for doubtful accounts is the Company's best estimate of the amount of probable credit losses in its existing accounts receivable. A specific reserve for bad debt is recorded for known or suspected doubtful accounts receivable. For all other accounts, the Company recognizes a reserve for bad debt based on the length of time receivables are past due and historical write-off experience. Account balances are charged off against the allowance when the Company believes it is probable the receivable will not be recovered. If the financial condition of the Company's customers were to deteriorate, resulting in an impairment of their ability to make payments, additional allowances would be required. The Company does not have any off-balance sheet credit exposure related to its customers.

Inventories. All inventories are stated at the lower of cost or market. All domestic inventories are valued on the last-in, first-out ("LIFO") method, and all other inventories are valued on the average cost and first-in, first-out ("FIFO") methods. When necessary, the Company provides allowances to adjust the carrying value of its inventory to the lower of cost or net realizable value, including any costs to sell or dispose. Appropriate consideration is given to obsolescence, excessive inventory levels, product deterioration and other factors in evaluating net realizable value.

Prepaid and Other Current Assets. Prepaid and other current assets primarily include prepayments on insurance and property tax, current deposits, income tax receivables, current deferred tax assets, value-added taxes, receivables from affiliates and other current assets.

Property, Plant, and Equipment. Property, plant and equipment are carried at cost and include expenditures for new facilities and major renewals and betterments. The Company capitalizes the cost of furnace rebuilds as part of property, plant and equipment. Plant and equipment under capital leases are carried at the present value of minimum lease payments. Maintenance, repairs and minor renewals are charged to expense as incurred. The Company capitalizes internal costs associated with the implementation of purchased software. When property, plant and equipment is retired or otherwise disposed of, the net carrying amount is eliminated with any gain or loss on disposition recognized in earnings at that time.

Depreciation is generally provided on the straight-line method based on estimated useful lives of the assets, ranging up to thirty-three years for buildings, ten to twelve years for machinery and equipment, and three to seven years for computer hardware and software.

Investments. Investments are accounted for using the equity method of accounting if the investment provides us the ability to exercise significant influence, but not control, over the investee. Significant influence is generally deemed to exist if the Company's ownership interest in the voting stock of the investee ranges between 20% and 50%, although other factors, such as representation on the investee's board of directors and the impact of commercial arrangements, are considered in determining whether the equity method of accounting is appropriate. Under the equity method of accounting, the investments in equity-method investees are recorded in the consolidated balance sheets as investments in affiliated companies and the investees' earnings or losses together with other-than temporary impairments in value is recorded as equity in net income from affiliated companies in the consolidated statements of operations.

Goodwill and Intangible Assets. Definite-lived intangible assets are amortized over their estimated useful life. Goodwill and intangible assets with indefinite lives are not amortized, but are tested for impairment annually or more frequently if events occur or circumstances change that would more likely than not reduce the fair value of the reporting unit below its carrying amount. A write-down occurs in periods in which it is determined that a reporting unit's fair value is less than its book value.

Generally accepted accounting principles require the Company to perform an impairment test at least annually. When evaluating goodwill for impairment, the Company can perform a qualitative step zero assessment. If the Company elects to skip or fails the qualitative assessment, then a quantitative assessment on the reporting units is performed. Under a qualitative assessment, the Company will consider the relevant events and circumstances and the extent to which they could affect the comparison of a reporting unit's fair value to its carrying amount and form a conclusion indicating whether it is more likely than not that the reporting unit's fair value is less than its carrying amount. The quantitative assessment is a two-step test. In step one the estimated fair value of the reporting unit is compared to its carrying value. If the estimated fair value is less than the carrying value, then step two is required. In step two the actual amount of the goodwill impairment is calculated by comparing the implied fair value of the reporting unit's goodwill with the carrying amount of that goodwill. The implied fair value is determined in the same manner as the amount of goodwill recognized in a business combination. See Note 11 to these consolidated financial statements for further discussion on goodwill impairment.

Other Long-term Assets. Other long-term assets primarily include pension benefits, deferred tax assets, and spare parts.

Valuation of Long-Lived Assets. The Company performs an impairment review of property, plant, and equipment and definite-lived intangible assets when facts and circumstances indicate the carrying value may not be recoverable from its undiscounted cash flows. When evaluating long-lived assets for impairment, if the carrying amount of an asset or asset group is found not to be recoverable, then an impairment loss is recognized. Any impairment loss is measured by comparing the carrying amount of the asset to its fair value. Fair value is determined using quoted market prices where available, or other techniques including discounted cash flows. The Company's estimates of future cash flows involve assumptions concerning future operating performance, economic conditions, and technological changes that may affect the future useful lives of the assets.

Derivative Financial Instruments. The Company utilizes certain derivative financial instruments to enhance its ability to manage risk, including exposures to interest rates and natural gas price fluctuations that exist as part of ongoing business operations. Derivative instruments are entered into for periods consistent with the related underlying exposures and do not constitute positions independent of those exposures.

All derivatives designated as hedges are recognized on the balance sheet at fair value. On the date a derivative contract is entered into, the Company may designate the derivative as a hedge of a forecasted transaction or the variability of cash flows to be received or paid related to a recognized asset or liability (cash flow hedge). Changes in the fair value of a derivative that is highly effective and that is designated and qualifies as a cash-flow hedge are recorded in other comprehensive income (loss) to the extent that the derivative is effective as a hedge, until earnings are affected by the variability in cash flows of the designated hedged item, and the ineffective portion is reported in earnings. Changes in the fair value of a derivative that is not designated or does not qualify as a cash flow hedge are recorded in the consolidated statement of operations. Cash flows from derivative instruments are reported in the same cash flow category as the cash flows from the items being hedged.

The Company formally documents all relationships between hedging instruments and hedged items, as well as its risk management objective and strategy for undertaking various hedge transactions. This process includes relating all derivatives that are designated cash flow hedges to underlying forecasted transactions. The Company also formally assesses both at the inception of the hedge and on an ongoing basis, whether each hedging relationship is highly effective in achieving offsetting changes in fair values or cash flows of the hedged item during the period. If it is determined that a derivative is not highly effective as a hedge, or if a derivative ceases to be a highly effective hedge, hedge accounting would be discontinued with respect to that derivative prospectively.

Fair Value Measurements. The Company measures fair value using the guidelines under U.S. generally accepted accounting principles. Fair value is defined as the price at which an asset could be exchanged in a current transaction between market participants. A liability's fair value is defined as the amount that would be paid to transfer the liability to a market participant, not the amount that would be paid to settle the liability with the creditor. See Note 4 to these consolidated financial statements regarding the application of fair value measurements.

The carrying values of cash, accounts receivable, accounts payable and accrued liabilities approximate fair value due to the short-term nature of these items. See Note 13 to these consolidated financial statements regarding the fair value of debt and Note 15 regarding other financial instruments.

Revenue Recognition. Revenue, net of related discounts and allowances, is recognized when both title and risk of loss of the product have been transferred to the customer, the seller's price to the buyer is fixed or determinable, collectability is reasonably assured, and persuasive evidence of an arrangement exists. Customers take title and assume all the risks of ownership upon shipment (if terms are "FOB shipping point") or upon delivery (if terms are "FOB destination"). Any deviation from the standard terms and arrangements are reviewed for the proper accounting treatment, and revenue recognition is revised accordingly.

The Company recognizes rebates given to customers as a reduction of revenue based on an allocation of the cost of honoring rebates earned and claimed to each of the underlying revenue transactions that result in progress by the customer toward earning the rebate. Rebates are recognized at the time revenue is recorded. The Company measures the rebate obligation based on the estimated amount of sales that will result in a rebate at the adjusted sales price per the respective sales agreement.

Shipping and Handling Costs. Amounts billed to a customer in a sale transaction related to shipping and handling, if any, represent revenues earned for the goods provided and is classified as revenue. Costs related to shipping and handling of products shipped to customers are classified as cost of goods sold.

Research and Development. Research and development costs of $10,264, $9,142, and $8,661, for the years ended December 31, 2015, 2014, and 2013, respectively, were expensed as incurred and reported in selling, general and administrative expenses in the consolidated statements of operations.

Income Taxes. The Company operates within multiple taxing jurisdictions and is subject to tax filing requirements and audit within these jurisdictions. The Company uses the asset and liability method in accounting for income taxes. Deferred tax assets and liabilities are recorded for temporary differences between the tax basis of assets and liabilities and their reported amounts in the financial statements, using statutory tax rates in effect for the year in which the differences are expected to reverse. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in the results of operations in the period that includes the enactment date. A valuation allowance is recorded to reduce the carrying amounts of deferred tax assets unless it is more likely than not that those assets will be realized.

In determining the provision for income taxes, the Company provides deferred income taxes on income from foreign subsidiaries as such earnings are taxable upon remittance to the United States. The Company establishes contingent liabilities for possible assessments by taxing authorities resulting from uncertain tax positions including, but not limited to, transfer pricing, deductibility of certain expenses and other state, local, and foreign tax matters. The Company recognizes a financial statement benefit for positions taken for tax return purposes when it will be more-likely-than-not that the positions will be sustained. The Company recognizes potential accrued interest and penalties related to unrecognized tax benefits in income tax expense. Tax examinations are often complex as tax authorities may disagree with the treatment of items reported by the Company and may require several years to resolve. These accrued liabilities represent a provision for taxes that are reasonably expected to be incurred on the basis of available information but which are not certain.

Asset Retirement Obligation. The Company records a liability when the fair value of any future obligation to retire a long-lived asset as a result of an existing or enacted law, statute, ordinance or contract is reasonably estimable. The Company also records a liability for the fair value of a conditional asset retirement obligation if the fair value can be reasonably estimated. When the liability is initially recorded, the Company capitalizes the cost by increasing the amount of the related long-lived asset. Over time, the Company adjusts the liability to its present value by recognizing accretion expense as an operating expense in the consolidated statement of operations each period, and the capitalized cost is depreciated over the useful life of the related asset. Upon settlement of the liability, the Company records a gain or loss if the actual costs differ from the accrued amount.

(Dollars in thousands, except per share amounts)

The Company has recorded asset retirement obligations ("ARO") in other long-term liabilities in order to recognize legal obligations associated with the retirement of tangible long-lived assets. The Company has assessed whether an ARO is required at each manufacturing facility and has recorded an obligation for those location for which an obligation exists. The most significant of these are primarily attributable to environmental remediation liabilities associated with current operations that were incurred during the course of normal operations. The Company has AROs that are conditional in nature. The Company identified certain conditional AROs upon which it was able to reasonably estimate their fair value and recorded a liability. These AROs were triggered upon commitments by the Company to comply with local, state, and national laws to remove environmentally hazardous materials. The AROs have been recognized on a discounted basis using a credit adjusted risk free rate. Accretion of the AROs is recorded in other operating expense and amounted to $304, $296, and $305, for the years ended December 31, 2015, 2014, and 2013, respectively. Following are changes in the ARO liability during the years ended December 31, 2015, 2014, and 2013:

	Year ended December 31,		
	2015	**2014**	**2013**
Beginning balance	$3,452	$3,310	$3,065
Liabilities incurred	—	—	—
Liabilities settled	—	—	—
Accretion expense	304	296	305
Foreign exchange impact	(224)	(154)	(60)
Ending balance	$3,532	$3,452	$3,310

Environmental Expenditures. Environmental expenditures that pertain to current operations or to future revenues are expensed or capitalized consistent with the Company's capitalization policy for property, plant and equipment. Expenditures that result from the remediation of an existing condition caused by past operations and that do not contribute to current or future revenues are expensed. Liabilities are recognized for remedial activities when the remediation is probable and the cost can be reasonably estimated. Recoveries of expenditures for environmental remediation are recognized as assets only when recovery is deemed probable. See Note 20 to these consolidated financial statements regarding commitments and contingencies and Note 12 regarding the accrued environmental reserve.

Stock-Based Compensation. The Company applies the fair value based method to account for stock options and awards. See Note 18 to these consolidated financial statements regarding compensation expense associated with stock options and awards.

Pensions and Postretirement Benefits. The Company maintains qualified and non-qualified defined benefit pension plans that cover employees in the United States and Canada, as well as certain employees in other international locations. Benefits for a majority of the plans are based on average final pay and years of service. Our funding policy, consistent with statutory requirements, is based on actuarial computations utilizing the projected unit credit method of calculation. Not all defined benefit pension plans are funded. In the United States and Canada, the pension plans' assets include equity and fixed income securities. In our other international locations, the pension plans' assets include equity and fixed income securities, as well as insurance policies. Certain assumptions are made regarding the occurrence of future events affecting pension costs, such as mortality, withdrawal, disablement and retirement, changes in compensation and benefits, and discount rates to reflect the time value of money.

The major elements in determining pension income and expense are pension liability discount rates and the expected return on plan assets. The Company references rates of return on high-quality, fixed income investments when estimating the discount rate, and the expected period over which payments will be made based upon historical experience. The long-term rate of return used to calculate the expected return on plan assets is the average rate of return estimated to be earned on invested funds for providing pension benefits.

In addition to pension benefits, the Company provides certain health care benefits for employees who meet age, participation and length of service requirements at retirement. These plans were closed to new retirees in the United States and Canada as of December 31, 2006. The Company uses explicit assumptions using the best estimates available of the plan's future experience. Principal actuarial assumptions include: discount rates, present value factors, retirement age, participation rates, mortality rates, cost trend rates, Medicare reimbursement rates and per capita claims cost by age. Current interest rates, as of the measurement date, are used for discount rates in present value calculations.

The Company also has defined contribution plans covering domestic employees of the Company and certain subsidiaries.

Contingencies. Certain conditions may exist as of the date the financial statements are issued, which may result in a loss to the Company but which will only be resolved when one or more future events occur or fail to occur. The Company's management and its legal counsel assess such contingent liabilities, and such assessment inherently involves an exercise of judgment. In assessing loss contingencies related to legal proceedings that are pending against the Company or unasserted claims that may result in such proceedings, the Company and legal counsel evaluates the perceived merits of any legal proceedings or unasserted claims as well as the perceived merits of the amount of relief sought or expected to be sought therein. If the assessment of a contingency indicates that it is probable that a loss has been incurred and the amount of the liability can be estimated, then the estimated liability is accrued in the Company's financial statements. If the assessment indicates that a loss contingency is not probable, but is reasonably possible, or is probable but cannot be estimated, then the nature of the contingent liability, together with an estimate of the range of possible loss if determinable and material, would be disclosed. Loss contingencies considered remote are generally not disclosed unless they involve guarantees, in which case the nature of the guarantee would be disclosed, including the approximate term, how the guarantee arose, and the events or circumstances that would require the guarantor to perform under the guarantee.

Use of Estimates. The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Out of period adjustment. Included in the 2015 financial statements are certain out of period adjustments relating to errors that originated in 2014 and 2013. During 2015, the Company recorded a $3,064 charge to the provision for income taxes and a corresponding credit to deferred taxes related to an out of period adjustment associated with the accounting for deferred taxes of Convertible Preferred Equity Instrument (CPEC), a hybrid equity instrument. The Company has determined that the impact of these out of period adjustments were not material to any of the years presented.

3. Recently Issued Accounting Standards:

In February 2016, the FASB issued guidance that amends the accounting for leases. Under the new guidance, a lessee will recognize assets and liabilities for most leases but will recognize expenses similar to current lease accounting. The guidance is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018. Early adoption is permitted. The new guidance must be adopted using a modified retrospective transition, and provides for certain practical expedients. The Company is currently evaluating the impact that the new guidance will have on its consolidated financial statements.

In November 2015, the Financial Accounting Standards Board ("FASB") issued ASU 2015-17, *Balance Sheet Classification of Deferred Taxes*. This guidance provides companies with the option to classify deferred tax liabilities and assets as non-current amounts, in a classified statement of financial position. For a particular tax paying component of an entity within a particular tax jurisdiction, all deferred tax liabilities and assets, as well as any related valuation allowance, shall be offset and presented as a single non-current amount. These new requirements for nonpublic entities become effective for annual reporting periods beginning after December 15, 2017 and interim periods with annual reporting periods after December 15, 2018. A nonpublic entity may elect early application as of the beginning of an interim or annual period. The Company has elected to adopt the requirements of this standard as of December 31, 2015. In accordance with ASU 2015-17, in the December 31, 2014 consolidated balance sheet, the Company credited the current deferred tax asset by $8,076 and debited the current deferred tax liability by $6, concurrently debiting the non-current deferred tax asset and the non-current deferred tax liability by $1,653 and $6,417, respectively.

In September 2015, the FASB issued guidance that will change the requirements for reporting measurement period adjustments to provisional amounts initially recognized in conjunction with a business combination. Under GAAP, an acquiring entity currently is required to retrospectively adjust, in prior period financial statements, the provisional amounts to reflect new information obtained during the measurement period (a period, which may not exceed one year from the date of the business combination, during which the acquiring entity may receive information about the facts and circumstances existing as of the acquisition date that, if known, would have affected the measurement of the amounts recognized as of the acquisition date). Under the new guidance, adjustments to the provisional amounts will be reflected in the financial statements for the reporting period in which the adjustments are determined, including by recognizing in current period earnings the full effect of changes in depreciation, amortization or other income effects. The guidance requires that the acquiring entity either present separately on the face of the current period income statement or disclose in the notes to the current period financial statement, by line item, the amount of the adjustments made during the current period. The new guidance will be effective for fiscal years beginning after December 15, 2016, and interim periods within fiscal years beginning after December 15, 2017. The amendments should be applied prospectively to adjustments to provisional amounts that occur after the effective date of the guidance with earlier application permitted for financial statements that have not yet been made available for issuance. The Company does not expect this guidance to have a significant impact on its consolidated financial statements.

In April 2015, the FASB issued accounting guidance (ASU 2015-03, *Simplifying the Presentation of Debt Issuance Costs*) that requires deferred financing costs to be presented as a direct reduction from the related debt liability in the financial statements rather than as a separately recognized asset, as is the current requirement under U.S. GAAP. Under the new guidance, amortization of such costs will continue to be reported as interest expense. In August 2015, the FASB issued updated guidance (ASU 2015-15 *Presentation and Subsequent Measurement of Debt Issuance Costs Associated with Line-of-Credit Arrangements*) to include similar treatment for deferred financing costs associated with line of credit arrangements. The new guidance will be effective for interim and annual periods beginning after December 15, 2015 and must be adopted on a retrospective basis.

Early adoption is permitted. The Company has elected to adopt the requirements of this standard as of December 31, 2015. In accordance with ASU 2015-03, the Company has presented net deferred financing costs of $4,228 and $6,141 as of December 31, 2015 and 2014, respectively, as a direct reduction of long term debt.

In January 2015, the FASB issued ASU 2015-01, *Simplifying Income Statement Presentation by Eliminating the Concept of Extraordinary Items*. Under this ASU, an entity will no longer be allowed to separately disclose extraordinary items, net of tax, in the income statement after income from continuing operations if an event or transaction is unusual in nature and occurs infrequently. ASU 2015-01 is effective for interim and annual reporting periods beginning after December 15, 2015 with early adoption permitted. The Company has adopted ASU 2015-01 effective December 31, 2015. The adoption did not have any impact on the Company's financial position, results of operations or cash flows.

In November 2014, the FASB issued new accounting guidance ASU 2015-08 that provides companies with the option to apply pushdown accounting in its separate financial statements upon occurrence of an event in which an acquirer obtains control of the acquired entity. The acquired entity may elect the option to apply pushdown accounting in the reporting period in which the change-in-control event occurs. If pushdown accounting is not applied in the reporting period in which the change-in-control event occurs, an acquired entity will have the option to elect to apply pushdown accounting in a subsequent reporting period as a change in accounting principle under GAAP. If pushdown accounting is applied to an individual change-in-control event, that election is irrevocable. This guidance also requires an acquired entity that elects the option to apply pushdown accounting in its separate financial statements to disclose information in the current reporting period that enables users of financial statements to evaluate the effect of pushdown accounting. The Company has adopted this guidance effective November 18, 2014, as the amendments are effective upon issuance. The adoption of this new guidance did not have any impact on its consolidated financial statements and related disclosures.

In August 2014, the FASB issued guidance regarding management's responsibility to evaluate whether there is substantial doubt about an entity's ability to continue as a going concern within one year of the issuance of the financial statements. If substantial doubt exists, additional disclosures would be required. This guidance will be effective beginning in the fourth quarter of fiscal year 2017, with early adoption permitted. The Company does not expect this guidance to have a significant impact on its consolidated financial statements.

In May 2014, the FASB issued accounting guidance that will significantly enhance comparability of revenue recognition practices across entities, industries, jurisdictions and capital markets. The core principle of the guidance is that revenue recognized from a transaction or event that arises from a contract with a customer should reflect the consideration to which an entity expects to be entitled in exchange for goods or services provided. To achieve that core principle the new guidance sets forth a five-step revenue recognition model that will need to be applied consistently to all contracts with customers, except those that are within the scope of other topics in the Accounting Standards Codification ("ASC"). Also required are enhanced disclosures to help users of financial statements better understand the nature, amount, timing and uncertainty of revenues and cash flows from contracts with customers. The enhanced disclosures include qualitative and quantitative information about contracts with customers, significant judgments made in applying the revenue guidance, and assets recognized related to the costs to obtain or fulfill a contract. These new requirements for nonpublic entities become effective for annual reporting periods beginning after December 15, 2018, and interim periods within fiscal years beginning after December 15, 2019. A nonpublic entity may elect early application, but no earlier than December 15, 2017, the effective date for public entities. The Company is assessing the impact of these new requirements on our financial statements.

In April 2014, the FASB issued authoritative guidance amending existing requirements for reporting discontinued operations. Under the new guidance, discontinued operations reporting will be limited to disposal transactions that represent strategic shifts having a major effect on operations and financial results. The amended guidance also enhances disclosures and requires assets and liabilities of a discontinued operation to be classified as such for all periods presented in the financial statements. Public entities will apply the amended guidance prospectively to all disposals occurring within annual periods beginning on or after December 15, 2014 and interim periods within those years. The Company has adopted this standard on January 1, 2015. Due to the change in requirements for reporting discontinued operations described above, presentation and disclosures of future disposal transactions after adoption may be different than under current standards.

In July 2013, the FASB issued ASU 2013-11 *Presentation of an Unrecognized Tax Benefit When a Net Operating Loss Carryforward, a Similar Tax Loss, or a Tax Credit Carryforward Exists*. This update is intended to improve the consistency surrounding the presentation of an unrecognized tax benefit when a net operating loss carryforward exists, requiring the unrecognized tax benefit to be presented as a reduction to a deferred tax asset for a net operating loss carryforward, a similar tax loss, or a tax credit carryforward. The new requirements for nonpublic entities are effective for fiscal years beginning after December 15, 2014, and for interim periods within those fiscal years, with early adoption permitted. The Company has implemented the provisions of ASU 2013-11 in 2015.

4. Fair Value Measurements:

Fair values are based on quoted market prices when available. When market prices are not available, fair value is generally estimated using discounted cash flow analyses, incorporating current market inputs for similar financial instruments with comparable terms and credit quality. In instances where there is little or no market activity for the same or similar instruments, the Company estimates fair value using methods, models and assumptions that management believes a hypothetical market participant would use to determine a current transaction price. These valuation techniques involve some level of management estimation and judgment which becomes significant with increasingly complex instruments or pricing models. Where appropriate, adjustments are included to reflect the risk inherent in a particular methodology, model or input used.

The Company's financial assets and liabilities carried at fair value have been classified based upon a fair value hierarchy. The hierarchy gives the highest ranking to fair values determined using unadjusted quoted prices in active markets for identical assets and liabilities (Level 1) and the lowest ranking to fair values determined using methodologies and models with unobservable inputs (Level 3). The classification of an asset or a liability is based on the lowest level input that is significant to its measurement. For example, a Level 3 fair value measurement may include inputs that are both observable (Levels 1 and 2) and unobservable (Level 3). The levels of the fair value hierarchy are as follows:

- Level 1—Values are unadjusted quoted prices for identical assets and liabilities in active markets accessible at the measurement date. Active markets provide pricing data for trades occurring at least weekly and include exchanges and dealer markets.
- Level 2—Inputs include quoted prices for similar assets or liabilities in active markets, quoted prices from those willing to trade in markets that are not active, or other inputs that are observable or can be corroborated by market data for the term of the instrument. Such inputs include market interest rates and volatilities, spreads and yield curves.
- Level 3—Certain inputs are unobservable (supported by little or no market activity) and significant to the fair value measurement. Unobservable inputs reflect the Company's best estimate of what hypothetical market participants would use to determine a transaction price for the asset or liability at the reporting date.

(Dollars in thousands, except per share amounts)

The following table presents information about the Company's assets and liabilities that are measured at fair value on a recurring basis as of December 31, 2015 and 2014, and indicates the fair value hierarchy of the valuation techniques the Company utilized to determine such fair value. Financial assets and liabilities measured at fair value on a recurring basis are summarized as follows:

	As of December 31, 2015	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Restoration plan assets	$5,927	$5,927	$ —	$—
Total	$5,927	$5,927	$ —	$—
Liabilities:				
Derivative contracts	$3,946	$ —	$3,946	$—
Total	$3,946	$ —	$3,946	$—

	As of December 31, 2014	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Derivative contracts	$ 49	$ —	$ 49	$—
Restoration plan assets	7,134	7,134	—	—
Total	$7,183	$7,134	$ 49	$—
Liabilities:				
Derivative contracts	$4,209	$ —	$4,209	$—
Total	$4,209	$ —	$4,209	$—

Restoration plan assets

The fair values of the Company's restoration plan assets are determined through quoted prices in active markets. Restoration plan assets are assets held in a Rabbi trust to fund the obligations of the Company's defined benefit supplementary retirement plans and include various stock and fixed income mutual funds. See Note 17 to these consolidated financial statements regarding defined supplementary retirement plans.

Derivative contracts

Derivative assets and liabilities can be exchange-traded or traded over the counter ("OTC"). The Company generally values exchange-traded derivatives using models that calibrate to market transactions and eliminate timing differences between the closing price of the exchange-traded derivatives and their underlying instruments. OTC derivatives are valued using market transactions and other market evidence whenever possible, including market-based inputs to models, model calibration to market transactions, broker or dealer quotations or alternative pricing sources with reasonable levels of price transparency. When models are used, the selection of a particular model to value an OTC derivative depends on the contractual terms of, and specific risks inherent in, the instrument as well as the availability of pricing information in the market. The Company generally uses similar models to value similar instruments. Valuation models require a variety of inputs, including contractual terms, market prices and rates, forward curves, measures of volatility, and correlations of such inputs. For OTC derivatives that trade in liquid markets, such as forward contracts, swaps and options, model inputs can generally be corroborated by observable market data by correlation or other means, and model selection does not involve significant management judgment.

(Dollars in thousands, except per share amounts)

The Company has interest rate caps and natural gas caps and swaps that are fair valued using Level 2 inputs. In addition, the Company applies a credit valuation adjustment to reflect credit risk which is calculated based on credit default swaps. To the extent that the Company's net exposure under a specific master agreement is an asset the Company utilizes the counterparty's default swap rate. If the net exposure under a specific master agreement is a liability the Company utilizes a default swap rate comparable to PQ Holdings Inc. The credit valuation adjustment is added to the discounted fair value to reflect the exit price that a market participant would be willing to receive to assume the Company's liabilities or that a market participant would be willing to pay for the Company's assets. As of December 31, 2015 and 2014 the credit valuation adjustment resulted in a minimal change in the fair value of the derivatives.

5. Accumulated Other Comprehensive Loss:

The following table presents cumulative changes in accumulated other comprehensive loss, net of tax for December 31, 2015, 2014, and 2013:

	December 31,		
	2015	2014	2013
Amortization and unrealized losses on pension and post retirement plans, net of tax of $26,739, $26,515, and $16,637	$ (47,587)	$(49,474)	$(31,176)
Unrecognized prior service credits (costs) on pension and post retirement plans, net of tax of $207, $174, and $137	(619)	(508)	(395)
Net changes in fair values of derivatives, net of tax of $1,735, $1,899, and $352	(2,624)	(2,881)	(455)
Foreign currency translation adjustments, net of tax of ($14,839), ($10,778), and ($5,881)	(81,143)	(43,774)	(19,729)
	$(131,973)	$(96,637)	$(51,755)

The following tables present the pre-tax, tax, and after-tax components of other comprehensive income (loss) for the twelve months ended December 31, 2015, 2014, and 2013:

	Twelve months ended December 31,								
	2015			2014			2013		
	Pre-tax amount	Tax benefit / (expense)	After-tax amount	Pre-tax amount	Tax benefit / (expense)	After-tax amount	Pre-tax amount	Tax benefit / (expense)	After-tax amount
Defined benefit and other postretirement plans									
Amortization and unrealized gaines (losses)	$ 1,664	$ 224	$ 1,888	$(28,176)	$ 9,878	$(18,298)	$ 26,783	$(9,389)	$ 17,394
Unrecognized prior service costs	(145)	33	(112)	(150)	37	(113)	(171)	42	(129)
Benefit plans, net	1,519	257	1,776	(28,326)	9,915	(18,411)	26,612	(9,347)	17,265
Net gain (loss) from hedging activities	421	(164)	257	(3,973)	1,547	(2,426)	2,765	(1,065)	1,700
Foreign currency translation	(34,354)	(4,061)	(38,415)	(19,986)	(4,897)	(24,883)	(18,233)	459	(17,774)
Other compreshensive (loss) income	$(32,414)	$(3,968)	$(36,382)	$(52,285)	$ 6,565	$(45,720)	$ 11,144	$(9,953)	$ 1,191

(Dollars in thousands, except per share amounts)

The following table presents the change in accumulated other comprehensive loss, net of tax, by component for the twelve months ended December 31, 2015, 2014, and 2013. Amounts in parentheses indicate debits.

	Defined benefit and other postretirement plans	Net gain (loss) from hedging activities	Foreign currency translation	Total
December 31, 2012	$(48,836)	$(2,155)	$ (1,856)	$ (52,847)
Other comprehensive income (loss) before reclassifications	15,513	437	(17,873)	(1,923)
Amounts reclassified from accumulated other comprehensive income(a)	1,752	1,263	—	3,015
Net current period other comprehensive income (loss)	17,265	1,700	(17,873)	1,092
December 31, 2013	$(31,571)	$ (455)	$(19,729)	$ (51,755)
Other comprehensive income (loss) before reclassifications	(19,249)	(2,526)	(24,045)	(45,820)
Amounts reclassified from accumulated other comprehensive income(a)	838	100	—	938
Net current period other comprehensive income (loss)	(18,411)	(2,426)	(24,045)	(44,882)
December 31, 2014	$(49,982)	$(2,881)	$(43,774)	$ (96,637)
Other comprehensive income (loss) before reclassifications	3,359	3,124	(37,369)	(30,886)
Amounts reclassified from accumulated other comprehensive income(a)	(1,583)	(2,867)	—	(4,450)
Net current period other comprehensive income (loss)	1,776	257	(37,369)	(35,336)
December 31, 2015	$(48,206)	$(2,624)	$(81,143)	$(131,973)

(a) See following table for details about these reclassifications

(Dollars in thousands, except per share amounts)

The following table presents the reclassifications out of accumulated other comprehensive loss for the twelve months ended December 31, 2015, 2014, and 2013. Amounts in parentheses indicate debits to profit / loss.

Details about Accumulated Other Comprehensive Income Components	Amount Reclassified from Accumulated Other Comprehensive Income — Twelve months ended December 31, 2015	2014	2013	Affected Line Item in the Statement Where Net Income is Presented
Defined benefit and other postretirement plans				
Amortization of prior service cost	$ 151	$ 151	$ 178	(a)
Amortization of net gain (loss)	(2,506)	(1,375)	(2,725)	(a)
	(2,355)	(1,224)	(2,547)	Total before tax
	772	386	795	Tax (expense) benefit
	$(1,583)	$ (838)	$(1,752)	Net of tax
Net gain (loss) from hedging activities				
Interest rate caps	$ (398)	$(1,434)	$(1,703)	Interest expense
Natural gas swaps	(4,226)	1,271	(350)	Cost of goods sold
	(4,624)	(163)	(2,053)	Total before tax
	1,757	63	790	Tax (expense) benefit
	$(2,867)	$ (100)	$(1,263)	Net of tax
Total reclassifications for the period	$(4,450)	$ (938)	$(3,015)	Net of tax

(a) These accumulated other comprehensive income (loss) components are included in the computation of net periodic pension cost (see Note 17 for additional details)

6. Other Operating Expense:

A summary of significant other operating expense is as follows:

	Year ended December 31, 2015	2014	2013
Amortization expense	$30,536	$31,438	$32,217
Transaction related costs	10,665	24,279	5,800
Management advisory fee	5,000	5,000	5,000
Environmental related costs	1,817	5,015	1,946
Demolition related costs	—	2,314	1,111
Restructuring, plant closure and severance related costs	3,672	729	1,010
Asset impairment	425	—	948
Net loss on asset disposals	1,548	694	653
Asset retirement obligation accretion	304	296	305
Sales of NOx credits	(4,037)	—	—
Bad debt, net	231	390	246
Other, net	1,355	993	137
	$51,516	$71,148	$49,373

(Dollars in thousands, except per share amounts)

7. Accounts Receivable and Allowance for Doubtful Accounts:

The components of accounts receivable are presented as follows:

	December 31,	
	2015	2014
Trade accounts receivable	$119,908	$125,287
Allowance for doubtful accounts	(2,470)	(2,710)
	$117,438	$122,577

Following are changes in the allowance for doubtful accounts during the years ended December 31, 2015, 2014, and 2013:

	Year ended December 31,		
	2015	2014	2013
Beginning balance	$(2,710)	$(3,652)	$(3,607)
Decreases (increases)	(231)	(374)	(253)
Write-offs, net of recoveries	221	1,078	213
Foreign exchange impact	250	238	(5)
Ending balance	$(2,470)	$(2,710)	$(3,652)

8. Inventories:

Inventories were classified and valued as follows:

	December 31,	
	2015	2014
Finished products and work in process	$149,723	$140,780
Raw materials	47,370	48,506
	$197,093	$189,286
Valued at lower of cost or market:		
LIFO basis	$115,654	$103,090
FIFO or average cost basis	81,439	86,196
	$197,093	$189,286

If inventories valued under the LIFO basis had been valued using the FIFO method, inventories would have been $4,729 and $2,641 lower than reported at December 31, 2015 and 2014, respectively. The higher LIFO basis of inventory compared to the FIFO method is due to the purchase accounting fair value step-up of inventory associated with the 2007 Merger and subsequent acquisitions.

(Dollars in thousands, except per share amounts)

9. Investments in Affiliated Companies:

The Company accounts for investments in affiliated companies under the equity method. Affiliated companies accounted for on the equity basis as of December 31, 2015 are as follows:

Company	Country	Percent Ownership
PQ Silicates Ltd.	Taiwan	50%
Zeolyst International	USA	50%
Zeolyst C.V.	Netherlands	50%
Quaker Holdings	South Africa	49%

Following is summarized information of the combined investments:

	December 31,	
	2015	2014
Current assets	$174,458	$162,854
Noncurrent assets	197,370	171,525
Current liabilities	37,803	40,724
Noncurrent liabilities	17,112	24,921

	Twelve months ended December 31,		
	2015	2014	2013
Net sales	$344,632	$240,254	$337,277
Gross profit	133,966	89,436	142,781
Operating income	97,149	54,728	112,171
Net income	95,432	63,502	112,419

The Company's investment in affiliates balance as of December 31, 2015 and 2014 includes net purchase accounting fair value adjustments of $66,207 and $68,593, respectively, consisting primarily of intangible assets such as customer relationships, formulations and product technology, and tradenames. Consolidated equity in net income from affiliates is net of $2,387, $2,387, and $2,387, of amortization expense related to purchase accounting fair value adjustments for the year ended December 31, 2015, 2014, and 2013.

The following table summarizes the activity related to the investments in affiliates balance on the consolidated balance sheet:

	Twelve months ended December 31,		
	2015	2014	2013
Balance at beginning of period	$202,745	$201,911	$163,223
Equity in net income of affiliated companies	47,712	31,746	56,195
Charges related to purchase accounting fair value adjustments	(2,387)	(2,387)	(2,387)
Dividends received	(30,089)	(34,255)	(33,050)
Investment in Zeolyst C.V.	10,000	10,000	18,000
Dissolution of investment in Nippon Highway Materials	—	—	9
Changes in foreign currency translation adjustments	(3,501)	(4,270)	(79)
Balance at end of period	$224,480	$202,745	$201,911

(Dollars in thousands, except per share amounts)

The Company had net receivables due from affiliates of $4,410 and $3,407 as of December 31, 2015 and 2014, respectively, which are included in prepaid and other current assets. Net receivables due from affiliates are generally non-trade receivables. Sales to and purchases from affiliates were not material for the years presented.

On December 18, 2013, PQ Corporation and our joint venture, Zeolyst International, entered into a real estate tax abatement agreement with the Unified Government of Wyandotte County and Kansas City, Kansas that will utilize an Industrial Revenue Bond financing structure to achieve a 75% real estate tax abatement on the value of the improvements that will be constructed during the expansion of PQ Corporation's and Zeolyst International's facilities at the jointly-operated Kansas City, Kansas plant. In accordance with ASC 210-20-45, the financing obligation and the industrial bond receivable have been presented net.

10. Property, Plant and Equipment:

A summary of property, plant and equipment, at cost, and related accumulated depreciation is as follows:

	December 31,	
	2015	2014
Land	$ 77,239	$ 82,494
Buildings	177,723	174,295
Machinery and equipment	600,682	570,629
Construction in progress	115,336	91,380
	970,980	918,798
Less: accumulated depreciation	(401,812)	(372,082)
	$ 569,168	$ 546,716

Depreciation expense was $62,586, $59,904, and $57,089, for the years ended December 31, 2015, 2014, and 2013, respectively.

11. Goodwill and Other Intangible Assets:

The changes in the carrying amount of goodwill for the years ended December 31, 2015 and 2014 is summarized as follows:

	Performance Chemicals Americas & Australia	Performance Chemicals EMEA & Asia	Catalysts	Specialty Glass Materials	Total
Balance as of January 1, 2015					
Goodwill	$277,153	$166,776	$132,770	$209,673	$786,372
Accumulated impairment losses	—	—	—	(65,031)	(65,031)
Total	277,153	166,776	132,770	144,642	721,341
Goodwill acquired during the year	9,896	—	—	—	9,896
Foreign exchange impact	(979)	(11,012)	(1,635)	(151)	(13,777)
Balance as of December 31, 2015					
Goodwill	286,070	155,764	131,135	209,522	782,491
Accumulated impairment losses	—	—	—	(65,031)	(65,031)
Total	$286,070	$155,764	$131,135	$144,491	$717,460

(Dollars in thousands, except per share amounts)

	Performance Chemicals Americas & Australia	Performance Chemicals EMEA & Asia	Catalysts	Specialty Glass Materials	Total
Balance as of January 1, 2014					
Goodwill	$277,528	$175,851	$134,059	$209,887	$797,325
Accumulated impairment losses	—	—	—	(65,031)	(65,031)
Total	277,528	175,851	134,059	144,856	732,294
Foreign exchange impact	(375)	(9,075)	(1,289)	(214)	(10,953)
Balance as of December 31, 2014					
Goodwill	277,153	166,776	132,770	209,673	786,372
Accumulated impairment losses	—	—	—	(65,031)	(65,031)
Total	$277,153	$166,776	$132,770	$144,642	$721,341

On May 1, 2015, the Company acquired certain assets and liabilities of a sodium silicate plant within the Performance Chemicals business of the Company for a total purchase price of $12,000. The Company accounted for the acquisition of these assets in accordance with ASC 805, "Business Combinations." Under the purchase method of accounting, the acquired assets were recorded at their respective fair values as of the date of acquisition. The purchase price was allocated to tangible assets acquired and liabilities assumed based upon their estimated fair values. The fair value of identifiable assets acquired and liabilities assumed was $3,143 and $1,039, respectively, and principally included the acquisition of property, plant and equipment of $2,454, inventory of $689, and assumed liabilities of $1,039. The purchase price allocation, which is based on the estimated fair value of net assets acquired, resulted in the Company recording goodwill of $9,896. The Company believes that expected synergies of the acquisition is the primary reason that contributed to a total purchase price that resulted in the recognition of goodwill. Goodwill is expected to be fully deductible for tax purposes. The pro forma impact of this acquisition would not have been material to the Company's results of operations for the years ended December 31, 2015 and 2014 respectively.

The Company completed its annual impairment assessments as of October 1, 2015 and 2014. For the annual assessments, the Company performed the two-step quantitative assessment for each of the reporting units. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. To determine the fair value of each reporting unit, the Company generally uses a market approach and an income, or discounted cash flow, approach.

In 2014, the Company determined fair value of its reporting units using only a market approach. The market value was estimated using publicly traded comparable company values by applying their most recent EBITDA multiples to the reporting unit's trailing twelve months EBITDA as well as indicative values from the 2014 Stock Purchase. As part of the 2014 Stock Purchase, the Company received bids on the various businesses which were used to value its reporting units as part of the market approach.

In 2015, the Company determined fair value of its reporting units using both a market approach and an income, or discounted cash flow, approach. Estimating the fair value of a reporting unit requires various assumptions including the use of projections of future cash flows and discount rates that reflect the risks associated with achieving those cash flows. The key assumptions used in estimating the fair values were the operating margin growth rates, revenue growth rates from implementation of strategic plans, the weighted average cost of capital, the perpetual growth rate, and the estimated earnings market multiples of each reporting unit. The market value was estimated using publicly traded comparable company values by applying their most recent EBITDA multiples to the reporting unit's trailing twelve months EBITDA. The income approach value was estimated using a discounted cash flow approach. The assumptions about future cash flows and growth rates are based on management's assessment of a number of factors including the reporting unit's recent performance against budget as well as management's ability to execute on planned future strategic initiatives. Discount rate assumptions are based on an assessment of the risk inherent in those future cash flows.

(Dollars in thousands, except per share amounts)

At October 1, 2015 and 2014, the fair value of each of the five reporting units exceeded their respective carrying values and, therefore, step two was not required.

The Company has trade names that are not subject to amortization of $104,415 and $108,972 as of December 31, 2015 and 2014, respectively. The change in trade names during the year was due to the foreign currency impact. The Company performed an annual quantitative assessment on its intangibles not subject to amortization and concluded that no impairment charge was warranted.

Gross carrying amounts and accumulated amortization for intangible assets with estimable useful lives are as follows:

	December 31, 2015			December 31, 2014		
	Gross Amounts	Accumulated Amortization	Net Balance	Gross Amounts	Accumulated Amortization	Net Balance
Formulations and product technology	$ 54,263	$ (37,192)	$ 17,071	$ 55,490	$ (33,361)	$ 22,129
Customer relationships	412,029	(209,809)	202,220	415,671	(186,949)	228,722
Trademarks	1,650	(1,471)	179	1,650	(1,306)	344
Patents	511	(364)	147	574	(366)	208
Total	$468,453	$(248,836)	$219,617	$473,385	$(221,982)	$251,403

The amortization periods for formulations and product technology range from seven to twelve years. The Company amortizes customer relationships over periods that range from nine to twenty years. Amortizable trademarks are amortized over a ten year period. The amortization periods for the patents range from eight to fourteen years.

During the year ended December 31, 2015, 2014 and 2013, the Company wrote off fully amortized patents totaling $63, $4,047 and $338, respectively. During the year ended December 31, 2014 and 2013, the Company wrote off fully amortized noncompete agreements totaling $3,269 and $231, respectively

Total amortization of intangibles was $30,536, $31,438, and $32,217, for the years ended December 31, 2015, 2014, and 2013, respectively and is recorded in other operating expense in the consolidated statement of operations

Estimated future aggregate amortization expense of intangible assets is as follows:

Year	Amount
2016	$ 30,273
2017	27,663
2018	25,270
2019	23,863
2020	21,355
Thereafter	91,193
Total estimated future aggregate amortization expense	$219,617

(Dollars in thousands, except per share amounts)

12. Accrued Liabilities:

The following table summarizes the components of accrued liabilities as follows:

	December 31,	
	2015	2014
Compensation and bonus	$26,490	$31,133
Interest	11,730	11,710
Pension and other post retirement benefits	1,048	1,317
Supplemental retirement plans	1,168	1,167
Income taxes	8,161	8,150
Natural gas hedge agreements	3,119	3,606
Commissions and rebates	2,367	2,471
Environmental reserves	6,919	7,615
Property tax	1,229	1,082
Management sponsor fee	2,781	41
INEOS Group liability (see Note 20)	2,294	2,341
Other	6,191	7,471
Total	$73,497	$78,104

13. Long-term Debt:

The summary of long-term debt is as follows:

	December 31,	
	2015	2014
Senior secured term loans with interest at 4.00% as of December 31, 2015 and as of December 31, 2014 (due August 2017)	$1,197,950	$1,210,300
Senior secured notes with interest at 8.75% as of December 31, 2015 and as of December 31, 2014 (due November 2018)	600,000	600,000
Revolving credit facility (due May 2017)	—	—
Other	23,158	23,184
Total debt	1,821,108	1,833,484
Original issue discount	(13,117)	(19,939)
Deferred financing costs	(4,228)	(6,141)
Total debt, net of original issue discount and deferred financing costs	1,803,763	1,807,404
Less: current portion	(14,508)	(14,534)
Total long-term debt	$1,789,255	$1,792,870

As discussed in Note 3, the Company has elected to adopt the requirements of ASU 2015-03 as of December 31, 2015. In accordance with ASU 2015-03, the Company has presented net deferred financing costs of $4,228 and $6,141 as of December 31, 2015 and 2014, respectively, as a direct reduction of long term debt in the table above.

On February 15, 2013, the Company re-priced its senior secured terms loans to lower the applicable interest rate. The Company repaid all outstanding senior secured term loans in the aggregate amount of $1,220,000 including accrued interest of $11,762 and a prepayment premium of 1.00% of the principal amount of the existing term loans, or $12,200, and issued new senior secured term loans in an aggregate principal amount of

$1,235,000 (the "2013 Term Loans"). The Company incurred early debt repayment fees of $12,200, of which $6,508 was recorded as original issue discount to long-term debt and $5,692 was immediately written off as debt extinguishment costs. The Company also recorded $1,771 of new third party financing costs as deferred financing fees. In addition, previous unamortized deferred financing costs of $2,592 and original issue discount of $11,993 associated with the old debt were written off as debt extinguishment costs.

On March 27, 2014, the Company re-priced its senior secured terms loans to lower the applicable interest rate. The Company repaid all outstanding senior secured term loans in the aggregate amount of $1,222,650 including accrued interest of $2,971 and issued new senior secured term loans in an aggregate principal amount of $1,222,650 (the "2014 Term Loans"). The 2014 Term Loans have substantially identical terms to the existing term loans except borrowings under the 2014 Term Loans bear interest at a rate equal to the LIBOR rate or the base rate elected by the Company at the time of borrowing plus a margin of 3.00% or 2.00%, respectively. In addition, a prepayment premium of 1.00% will be payable on the 2014 Term Loans in the event of a re-pricing transaction prior to the one year anniversary of the effective date of the 2014 Term Loans. The Company recorded $536 of new creditor fees as original issue discount in long-term debt. In addition, previous unamortized deferred financing costs of $264 and original issue discount of $2,212 associated with the old debt were written off to debt extinguishment costs.

The Company incurred deferred financing fees associated with the financing of its debt. Such deferred financing costs are amortized over the terms of the related agreements. Amortization of deferred costs of $1,913, $1,967, and $1,892, for the years ended December 31, 2015, 2014, and 2013, were included in interest expense. In addition, the Company paid original issue discount associated with the financing of its debt. The original issue discount is amortized over the terms of the related agreements. Amortization of original issue discount of $6,822, $6,932, and $7,535, for the years ended December 31, 2015, 2014, and 2013, were included in interest expense.

Senior Secured Term Loans and Revolving Credit Facility

On November 8, 2012, the Company entered into a new senior secured credit facility having a first lien term loan in the amount of $1,220,000 with a maturity date of May 8, 2017. Borrowings under the first lien term facilities bear interest at a rate equal to the LIBOR rate or the base rate elected by the Company at the time of borrowing plus a margin of 4.25% or 3.25%, respectively. Further, the LIBOR or base rate elected under the facilities are also subject to a floor of 1.00% and 2.00%, respectively. The senior credit facility requires minimum quarterly principal payments of $3,050 on the first lien term loan, though such minimum payments may be reduced in accordance with any prepayments or increased if the amount of the Term Loans is increased.

On February 15, 2013, the Company re-priced its senior secured terms loans to lower the applicable interest rate and issued the 2013 Term Loans of $1,235,000. The 2013 Term Loans have substantially identical terms to the existing term loans except borrowings under the 2013 Term Loans bear interest at a rate equal to the LIBOR rate or the base rate elected by the Company at the time of borrowing plus a margin of 3.50% or 2.50%, respectively. In addition, the minimum quarterly principal payments increased to $3,088, the maturity date was extended to August 7, 2017, and the prepayment premium of 1.00% will be payable on the 2013 Term Loans in the event of a re-pricing transaction prior to the one year anniversary of the effective date of the 2013 Term Loans.

On March 27, 2014, the Company re-priced its senior secured terms loans to lower the applicable interest rate and issued the 2014 Term Loans of $1,222,650. The 2014 Term Loans have substantially identical terms to the existing term loans except borrowings under the 2014 Term Loans bear interest at a rate equal to the LIBOR rate or the base rate elected by the Company at the time of borrowing plus a margin of 3.00% or 2.00%, respectively. In addition, a prepayment premium of 1.00% will be payable on the 2014 Term Loans in the event of a re-pricing transaction prior to the one year anniversary of the effective date of the 2014 Term Loans.

The loans and guarantees under the senior credit facility are secured by first-priority liens in substantially all of the tangible and intangible assets of PQ Corporation and certain of its material subsidiaries, including pledges of all present and future shares of capital stock of PQ Corporation and certain guarantors and each of PQ Corporation's and such guarantors' material directly wholly-owned domestic subsidiaries and 65% of the present and future shares of capital stock of each of PQ Corporation's and such guarantors' directly owned foreign restricted subsidiaries (other than certain Cayman subsidiaries which guarantee the senior credit facility), in each case subject to certain thresholds, exceptions and customary permitted liens.

The senior credit facility further requires prepayments from all "net cash proceeds" received and "excess cash flow," if applicable. In accordance with the senior credit facility, net cash proceeds generally relate to proceeds received from the issuance or incurrence of certain indebtedness or proceeds received on the disposition of assets, adjusted for certain costs and expenses, and are payable promptly upon receipt, subject in the case of net cash proceeds from asset dispositions, to meeting the thresholds described below. Net cash proceeds in respect of asset dispositions are not payable if such proceeds are reinvested in the Company's business within a certain specified time period or if they are under certain minimum amounts, both on an individual basis for any given disposition and in the aggregate for dispositions that, individually, would not meet the threshold. Excess cash flow is to be calculated annually and is defined as consolidated net income adjusted for various expenditures and/or proceeds commencing with the fiscal year ending on December 31, 2014. Prepayments with respect to excess cash flow, if any, are to be made on an annual basis due within 10 days after the annual audited financials are delivered to the lenders thereunder of each year. The detailed calculations supporting those two prepayments are defined in the credit agreement. The remaining principal balance of the term loans are due upon maturity.

The senior credit facility provides for up to $150,000 in revolving credit borrowings. Borrowings under the revolving facility bear interest at a rate equal to the LIBOR or base rate elected by the Company at the time of borrowing plus a margin of 4.25% or 3.25%, respectively, subject to reduction based on certain leverage thresholds. In addition, there is an annual commitment fee equal to 0.50%, with a step-down to 0.25% based on certain leverage thresholds of the unused revolving credit borrowings available under the senior credit facility. Revolving credit borrowings are payable at the option of the Company throughout the term of the senior credit facility with the balance due May 8, 2017. As of December 31, 2015, there were no revolving credit borrowings under the senior credit facility. In accordance with the terms of the Company's senior credit facility, repayments made by the Company relating to outstanding revolver borrowings are applied to all lenders on a pro-rata basis, subject to certain exceptions.

The senior credit facility contains various non-financial restrictive covenants. It limits the ability of PQ Corporation and its restricted subsidiaries to incur certain indebtedness or liens, merge, consolidate or liquidate, dispose of certain property, make investments or declare or pay dividends, make optional payments, modify certain debt instruments, enter into certain transactions with affiliates, or enter into certain sales and leasebacks, and it also provides limitation on other non-financial restrictive covenants. The Senior Credit Facility also contains one financial restrictive covenant. Commencing at the end of the first full fiscal quarter after the effective date of the Agreement, which was November 8, 2012, as of the end of any fiscal quarter of the Company for the four fiscal quarter period ending on such date, the Company's Total Net First Lien Leverage Ratio, as defined, must be less than 5.75:1.00 (4.75:1.00 as of December 31, 2015), with annual step-downs. At December 31, 2015, the Company was in compliance with all loan covenants.

The Company may at any time or from time to time voluntarily prepay the senior secured loans in whole or in part without premium or penalty, except prior to the one year anniversary of the closing date, the Company shall pay a prepayment premium in an amount equal to 1.00% of the principal amount prepaid.

The Company has a $35,000 letter of credit sublimit under the senior credit facility subject to the availability under the revolving credit facility. The Company has letters of credit outstanding of $5,279 as of December 31, 2015, which reduce available borrowings under the revolving credit facility by such amounts.

Senior Secured Notes

On November 8, 2012, the Company issued $600,000 of 8.750% second lien senior secured notes due 2018 in transactions exempt from or not subject to registration under the Securities Act pursuant to Rule 144A and Regulation S under the Securities Act of 1933. The notes are senior secured obligations of the Company and rank equally in right of payment with all of the Company's existing and future senior debt and senior in right of payment to all of the Company' existing and future subordinated debt. The notes will be effectively subordinated to all of the Company's first lien senior secured debt, including the senior secured credit facility, to the extent of the value of the assets securing such debt. The notes will also be structurally subordinated to the liabilities of PQ Corporation's existing and future non-guarantor subsidiaries. The indenture relating to the notes contains various limitations on the Company's and its restricted subsidiaries' ability to incur additional indebtedness, pay dividends or repay certain debt, make loans and investments, sell assets, create liens, enter into transactions with affiliates, enter into agreements restricting PQ Corporation's subsidiaries ability to pay dividends, and merge and consolidate with other companies, among other things. Interest on the notes is payable on May 1 and November 1 of each year, commencing May 1, 2013. No principal payments are required with respect to the notes prior to their final maturity. The notes mature on November 1, 2018. The obligations of the Company under the notes and the indenture are guaranteed by Holdings and CPQ Midco I Corporation, PQ Corporation's direct parent, and each of PQ Corporation's subsidiaries that is a guarantor under the new senior secured credit facility. The obligations of the Company under the notes and the indenture are secured by second-priority liens over substantially all of the tangible and intangible assets of Holdings and certain of its material subsidiaries, including pledges of all present and future shares of capital stock of CPQ Midco I Corporation, PQ Corporation and certain guarantors and each of PQ Corporation's and such guarantors' material directly wholly-owned domestic subsidiaries and 65% of the present and future shares of capital stock of each of PQ Corporation's and such guarantors' directly owned foreign restricted subsidiaries (other than certain Cayman subsidiaries which guarantee the notes), in each case subject to certain thresholds, exceptions and customary permitted liens.

If any event of default (other than a default relating to certain events of bankruptcy or insolvency of PQ Corporation or certain of its subsidiaries) shall occur and be continuing, the trustee or holders of at least 25% in principal amount of outstanding notes under the indenture may declare the principal of, premium, if any, and accrued but unpaid interest on all the notes to be due and payable and the same shall become immediately due and payable. If an event of default arising from certain events of bankruptcy or insolvency of the Company occurs, the principal of, premium, if any, and interest on all the notes shall become immediately due and payable without any declaration or other act on the part of the trustee or any holders.

Upon the occurrence of a Change of Control, each holder will have the right to require the Company to purchase all or any part of such holder's notes at a purchase price in cash equal to 101% of the principal amount, plus accrued and unpaid interest.

Other Debt

On October 24, 2013, the Company's subsidiary Potters Industries, LLC ("Potters") entered into a New Markets Tax Credit ("NMTC") financing arrangement with JPMorgan Chase Bank N.A. and several of its affiliates ("Chase") and TX CDE V LLC, an affiliate of Texas LIC Development Company LLC d/b/a Texas Community Development Capital ("TX CDE") to fund the expansion of Potters' manufacturing facility in Paris, Texas (the “NMTC Agreement”). The NMTC program, which is administered by the United States Treasury Department requires certain balance sheet commitments. The NMTC Agreement will provide the Company with certain monetary benefits as an offset to specifically identified capital expenditures. The NMTC Agreement requires that certain commitments and covenants be maintained over the course of the next 7 years, in order to legally recognize the benefit. Chase agreed to contribute $6,634 and an additional $15,632 in funds lent to Chase by Potters Holdings II, L.P. to TX CDE. TX CDE, in turn, lent $21,000 in the form of $5,368 and $15,632 notes, or the Loans, to Potters, which used the proceeds of the Loans to finance the expansion of Potters’ manufacturing facility in Paris, Texas. The capital expenditures associated with the NMTC Agreement were completed in 2014. The $21,000 was outstanding as of December 31, 2015 and 2014.

(Dollars in thousands, except per share amounts)

In connection with the NMTC transaction, the Company has provided an indemnification related to our actions or inactions which cause either a NMTC disallowance or recapture event. In the event that we cause either a recapture or disallowance of the tax credits expected to be generated under this program, then we will be required to repay the disallowed or recaptured tax credits plus an amount sufficient to pay the taxes on such repayment, to the counterparty of the agreement. This indemnification covers our actions and inactions prior to September 6, 2020. The maximum potential amount of future payments under this indemnification is approximately $12,600. The Company currently believe that the likelihood of us being required to make a payment under this indemnification is remote.

The Company also has several note payable agreements denominated in Japanese Yen which currently enables the Company to borrow up to a total of 260,000 Japanese Yen, or $2,158. Borrowings bear interest at either TIBOR (“Tokyo Interbank Offered Rate”) plus a margin or the short-term prime rate with a weighted average rate of 0.63% as of December 31, 2015 and as of December 31, 2014. The terms of the agreements vary and are renewable upon expiration of the term with the balances due in 2016. Borrowings under the agreement are payable at the option of the Company throughout the term of the agreements. Borrowings outstanding under these agreements were $2,158 and $2,184 as of December 31, 2015 and 2014, respectively.

Certain of the Company’s foreign subsidiaries maintain other note payable agreements. These agreements are not further described as they are not significant to the consolidated financial statements.

The fair value of a financial instrument is the amount at which the instrument could be exchanged in a current transaction. As of December 31, 2015 and 2014, the fair value of the senior secured term loan and senior secured bond was lower than book value by $30,760 and $3,206, respectively. The fair value of the senior secured term loans and notes were derived from published loan prices at December 31, 2015 and 2014, as applicable. The fair value is classified as Level 1 based upon the fair value hierarchy and is determined using unadjusted quoted prices in active markets for identical liabilities.

The aggregate long-term debt maturities are:

Year	Amount
2016	$ 14,508
2017	1,185,600
2018	600,000
2019	—
2020	—
Thereafter	21,000
	$1,821,108

(Dollars in thousands, except per share amounts)

Cash payments for interest were $103,108, $104,917, and $109,337, for the years ended December 31, 2015, 2014, and 2013, respectively.

14. Other Long-term Liabilities:

The following table summarizes the components of other long-term liabilities as follows:

	December 31, 2015	December 31, 2014
Pension benefits	$58,725	$ 61,028
Other postretirement benefits	4,566	5,116
Supplemental retirement plans	12,960	13,851
Reserve for uncertain tax positions	9,941	17,631
Asset retirement obligation	3,532	3,452
INEOS Group liability (see Note 20)	3,091	4,116
Natural gas hedge agreements	732	603
Other	3,318	4,213
Total	$96,865	$110,010

15. Financial Instruments:

The Company uses interest rate related derivative instruments to manage its exposure related to changes in interest rates on its variable-rate debt instruments and uses commodity derivatives to manage its exposure to commodity price fluctuations. The Company does not speculate using derivative instruments.

By using derivative financial instruments to hedge exposures to changes in interest rates and commodity prices, the Company exposes itself to credit risk and market risk. Credit risk is the failure of the counterparty to perform under the terms of the derivative contract. When the fair value of a derivative contract is an asset, the counterparty owes the Company, which creates credit risk for the Company. When the fair value of a derivative contract is a liability, the Company owes the counterparty and, therefore, the Company is not exposed to the counterparty's credit risk in those circumstances. The Company minimizes counterparty credit risk in derivative instruments by entering into transactions with high quality counterparties. The derivative instruments entered into by the Company do not contain credit-risk-related contingent features.

Market risk is the adverse effect on the value of a derivative instrument that results from a change in interest rates, currency exchange rates, or commodity prices. The market risk associated with interest rate and commodity price contracts is managed by establishing and monitoring parameters that limit the types and degree of market risk that may be undertaken.

Use of Derivative Financial Instruments to Manage Commodity Price Risk. The Company is exposed to risks in energy costs due to fluctuations in energy prices, particularly natural gas. The Company has a hedging program in the United States which allows the Company to mitigate exposure to natural gas volatility with natural gas swap agreements. Fair value is determined based on estimated amounts that would be received or paid to terminate the contracts at the reporting date based on quoted market prices of comparable contracts. The respective current and non-current liabilities are recorded in accrued liabilities and other long-term liabilities and the respective current and non-current assets are recorded in prepaid and other current assets and other long-term assets, as applicable. As the derivatives are highly effective and are designated and qualify as cash-flow hedges, the related unrealized gains or losses are recorded in stockholders' equity as a component of other comprehensive income (loss), net of tax. Realized gains and losses on natural gas hedges are included in production cost and subsequently charged to cost of goods sold in the consolidated statements of operations in the period in which inventory is sold.

(Dollars in thousands, except per share amounts)

Use of Derivative Financial Instruments to Manage Interest Rate Risk. The Company is exposed to fluctuations in interest rates on the long-term senior secured term loan and revolving credit facility. Changes in interest rates will not affect the market value of such debt but will affect the amount of our interest payments over the term of the loans. Likewise, an increase in interest rates could have a material impact on the Company's cash flow. The Company hedges the interest rate fluctuations on debt obligations through interest rate cap agreements. The Company records these agreements at fair value as assets or liabilities. As the derivatives are highly effective and are designated and qualify as cash-flow hedges, the related unrealized gains or losses are deferred in stockholders' equity as a component of other comprehensive income (loss), net of tax. Fair value is determined based on estimated amounts that would be received or paid to terminate the contracts at the reporting date based on quoted market prices.

During 2013, the Company entered into interest rate cap agreements, paying a premium of $995 to mitigate interest rate volatility from September 2013 until March 2016, by employing a 2% cap rates on $800,000 of notional variable debt.

The fair values of derivative instruments held are shown below:

		December 31,	
	Balance sheet location	**2015**	**2014**
Asset derivatives:			
Derivatives designated as cash flow hedges:			
Interest rate caps	Other long-term assets	—	$ 49
Total asset derivatives		$ —	$ 49
Liability derivatives:			
Derivatives designated as cash flow hedges:			
Natural gas swaps	Accrued liabilities	$3,004	$3,205
Natural gas swaps	Other long-term liabilities	732	603
Derivatives not designated as cash flow hedges:			
Natural gas swaps	Accrued liabilities	210	401
Total liability derivatives		$3,946	$4,209

(Dollars in thousands, except per share amounts)

The following table shows the effect of the Company's derivative instruments designated as hedges on other comprehensive income (loss) (OCI) and the statement of income:

	Location in Earnings	Year ended December 31, 2015	2014	2013
Derivatives designated as cash flow hedges:				
AOCI derivative loss at beginning of year		$(4,220)	$ (202)	$(2,966)
Effective portion of changes in fair value recognized in OCI:				
Interest rate caps		(49)	(900)	(47)
Natural gas swaps		(4,154)	(3,566)	839
Natural gas caps		—	174	(81)
Amount of loss reclassified from OCI to earnings:				
Interest rate caps	Interest expense	398	1,434	1,703
Natural gas swaps	Cost of goods sold	4,226	(1,160)	350
AOCI derivative loss at end of year		$(3,799)	$(4,220)	$ (202)

Amounts of unrealized losses in OCI that are expected to be reclassified to the consolidated statement of operations over the next twelve months are $3,004 as of December 31, 2015.

16. Income Taxes:

Income (loss) before income taxes and noncontrolling interest within or outside the United States are shown below:

	December 31, 2015	2014	2013
Domestic	$(50,677)	$(71,392)	$(31,277)
Foreign	83,201	77,223	70,136
Total	$ 32,524	$ 5,831	$ 38,859

The provision (benefit) for income taxes as shown in the accompanying consolidated statements of operations consists of the following:

	December 31, 2015	2014	2013
Current:			
Federal	$ 4	$ (682)	$ 1,136
State	303	317	(84)
Foreign	14,362	18,641	16,200
	14,669	18,276	17,252
Deferred:			
Federal	8,812	(9,686)	(1,795)
State	1,650	(1,175)	(2,291)
Foreign	(2,229)	133	(2,558)
	8,233	(10,728)	(6,644)
Provision (benefit) for income taxes	$22,902	$ 7,548	$10,608

(Dollars in thousands, except per share amounts)

A reconciliation of income tax expense (benefit) at the U.S. federal statutory income tax rate of 35% to actual income tax expense (benefit) is as follows:

	December 31,		
	2015	2014	2013
Tax at statutory rate	$ 11,383	$ 2,041	$ 13,600
State income taxes, net of federal income tax benefit	(2,760)	(2,011)	(2,858)
Repatriation of non-U.S. earnings	22,869	5,919	10,011
Changes in uncertain tax positions	(1,919)	506	(732)
Change in valuation allowances	3,157	2,318	(1,816)
Change in state effective rates	214	(1,337)	308
Foreign withholding taxes	1,505	2,223	1,639
Foreign tax rate differential	(13,230)	(11,013)	(11,883)
Non-deductible transaction costs	322	6,782	—
Other, net	1,361	2,120	2,339
Provision (benefit) for income taxes	$ 22,902	$ 7,548	$ 10,608

The total tax provision of $22,902 for the twelve months ended December 31, 2015 on the Company's consolidated pre-tax income for the period differs from the U.S. statutory tax rate of 35% principally due to the repatriation of non-U.S. earnings, foreign income tax in jurisdictions with statutory rates different than the U.S. rate, state taxes, non-deductible transaction costs, foreign withholding taxes, changes in valuation allowance, and changes in uncertain tax positions.

The total tax provision of $7,548 for the twelve months ended December 31, 2014 on the Company's consolidated pre-tax income for the period differs from the U.S. statutory tax rate of 35% principally due to the repatriation of non-U.S. earnings, foreign income tax in jurisdictions with statutory rates different than the U.S. rate, state taxes, non-deductible transaction costs, foreign withholding taxes, changes in valuation allowance, and changes in uncertain tax positions.

The total tax provision of $10,608 for the twelve months ended December 31, 2013 on the Company's consolidated pre-tax income for the period differs from the U.S. statutory tax rate of 35% principally due to the repatriation of non-U.S. earnings, foreign income tax in jurisdictions with statutory rates different than the U.S. rate, state taxes, foreign withholding taxes, changes in valuation allowance, and changes in uncertain tax positions.

(Dollars in thousands, except per share amounts)

Deferred tax assets (liabilities) are comprised of the following:

	December 31, 2015	December 31, 2014
Deferred tax assets:		
Net operating loss carryforwards	$ 117,825	$ 125,972
Pension	23,327	24,713
Postretirement health	1,451	1,601
Transaction costs	2,409	3,380
Natural gas contracts	1,421	1,447
Interest rate swaps	25	158
Unrealized translation losses	7,145	7,552
Other	26,556	19,873
Valuation allowance	(40,078)	(39,178)
	$ 140,081	$ 145,518
Deferred tax liabilities:		
Depreciation	$ (42,962)	$ (43,079)
Undistributed earnings of non-U.S. subsidiaries	(49,767)	(43,317)
LIFO reserve	(4,981)	(5,089)
Intangible assets	(132,556)	(142,072)
Other accruals	(18,821)	(19,759)
	$(249,087)	$(253,316)
Net deferred tax liabilities	$(109,006)	$(107,798)

Included in the 2015 deferred tax asset and liability amounts for depreciation, intangible assets, LIFO reserve, natural gas contracts, and other above is $42,451 of a net deferred tax liability related to the Company's investment in Potters Industries, LLC, which is a partnership for Federal income tax purposes. The Company and one of its subsidiaries own in aggregate 100% of Potters Industries, LLC and the assets and liabilities of Potters Industries, LLC are included in the consolidated financial statements of the Company.

The $109,006 in net deferred tax liabilities as of December 31, 2015 consists of $4,191 in net non-current deferred tax assets and $113,197 in net non-current deferred tax liabilities.

The $107,798 in net deferred tax liabilities as of December 31, 2014 consists of $6,687 in non-current deferred tax assets and $114,485 in net non-current deferred tax liabilities.

The change in net deferred tax assets (liabilities) for the year ended December 31, 2015 was primarily related to the increase in deferred tax assets on accrued pension obligations, and book amortization of intangibles with no corresponding tax basis.

The change in net deferred tax assets (liabilities) for the year ended December 31, 2015 was primarily related to the increase in deferred tax liabilities on the undistributed earnings of non-U.S. subsidiaries, partially offset by the book amortization of intangibles with no corresponding tax basis.

(Dollars in thousands, except per share amounts)

Following are changes in the deferred tax valuation allowance during the years ended December 31, 2015, 2014, and 2013:

	Beginning Balance	Additions	Reductions	Ending Balance
Year ended December 31, 2015	$39,178	3,750	(2,850)	$40,078
Year ended December 31, 2014	37,141	3,702	(1,665)	39,178
Year ended December 31, 2013	36,649	6,302	(5,810)	37,141

The net change in the total valuation allowance was an increase of $900 in 2015. The valuation allowance at December 31, 2015 was primarily related to foreign and state net operating loss carryforwards and tax credits that, in the judgment of management, are not more likely than not to be realized. In assessing the realizability of deferred tax assets, management considered whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considered the scheduled reversal of deferred tax liabilities (including the impact of available carryback and carryforward periods), projected future taxable income, and tax-planning strategies that are prudent in making this assessment. In order to fully realize deferred tax assets, the Company will need to generate future taxable income prior to the expiration of the net operating loss and credit carryforwards. The amount of the deferred tax assets considered realizable, however, could be reduced in the near term if estimates of future taxable income during the carryforward period are reduced.

Management considered certain earnings in non-U.S. subsidiaries to be available for repatriation in the future. The tax cost associated with non-U.S. subsidiary earnings and distributions for the years ended December 31, 2015 and 2014 has been recorded as tax expense for the period. In this regard the Company expects to deduct, rather than credit, foreign tax expense in computing the U.S. tax effects of repatriation from non-U.S. subsidiaries in 2015 and 2014. The unremitted earnings of non-U.S. subsidiaries and affiliates that have not been reinvested abroad indefinitely amount to $129,139 as of December 31, 2015. The deferred U.S. federal and state income tax liability and deferred foreign withholding tax liability on these undistributed earnings is estimated to be $49,767.

At December 31, 2015, the cumulative unremitted earnings of foreign subsidiaries outside the United States, considered permanently reinvested, for which no income or withholding taxes have been provided, approximated $94,475. Such earnings are expected to be reinvested indefinitely and, as a result, no deferred tax liability has been recognized with regard to such earnings. Determination of the deferred income tax liability on these unremitted earnings is not practicable principally because such liability, if any, is dependent on circumstances existing if and when remittance occurs.

The following table summarizes the activity related to our gross unrecognized tax benefits:

	December 31, 2015	December 31, 2014
Balance at beginning of period	$15,503	$16,180
Increases related to prior year tax positions	8,271	163
Decreases related to prior year tax positions	(2,035)	(1,021)
Increases related to current year tax positions	768	740
Decreases related to settlements with taxing authorities	(3,033)	(270)
Decreases related to lapsing of statute of limitations	(55)	(289)
Balance at end of period	$19,419	$15,503

(Dollars in thousands, except per share amounts)

Included in the balance of total unrecognized tax benefits are potential benefits of $19,419 and $15,503, that if recognized, would affect the effective tax rate on income from continuing operations as of December 31, 2015 and 2014, respectively.

Interest and penalties recognized related to uncertain tax positions amounted to ($1,313), $976 and $152 in 2015, 2014 and 2013, respectively. To the extent interest and penalties are not assessed with respect to uncertain tax positions, amounts accrued will be reduced and reflected as a reduction of the overall income tax provision in the period for which the event occurs requiring the adjustment. The accrued interest and penalties as of December 31, 2015 and 2014 are $3,131 and $5,843, respectively, and are recorded in other long-term liabilities in the consolidated balance sheet.

The Company files numerous consolidated and separate income tax returns in the U.S. Federal jurisdiction and in many state and foreign jurisdictions. The following describes the open tax years, by major tax jurisdiction, as of December 31, 2015:

Jurisdiction	Period
United States—Federal	2011 - Present
United States—State	2008 - Present
Canada(a)	2009 - Present
Germany	2010 - Present
Netherlands	2011 - Present
Mexico	2010 - Present
United Kingdom	2010 - Present
Brazil	2010 - Present

(a)—Includes federal as well as local jurisdictions

Given that the U.S. Company has net operating loss carryforwards, the statute for examination by taxing authorities in the United States, and certain state jurisdictions, will remain open for a period following the use of such net operating loss carryforwards extending the period for examination beyond the years indicated above.

The Company has subsidiaries in various states, provinces and countries that are currently under audit for years ranging from 2003 through 2015. To date, no material adjustments have been proposed as a result of these audits. As of December 31, 2015, the Company does not believe that there are any positions for which it is reasonably possible that the total amount of unrecognized tax benefits will significantly increase or decrease within the next 12 months.

The Company has a net operating loss carry-forward (“NOL”) available of $288,017 to reduce future federal taxes payable. The federal carry-forward period is 20 years. $29,278 relates to periods prior to the 2007 Merger. $258,559 relates to periods after the 2007 Merger but prior to the 2014 Stock Purchase. $180 relates to periods after the 2014 Stock Purchase. Both, the 2007 Merger and 2014 Stock Purchase triggered the change in control provisions under IRC §382. Although subject to the limitations of IRC §382, management believes it is more likely than not that the Company will realize the entire $287,837 in pre-transaction NOLs in future years. The remaining $180 relates to NOLs generated following the 2014 Stock Purchase and would not be subject to IRC §382.

For state income tax purposes the Company incurred net operating losses of $14,997 for 2015 that may be carried forward at periods ranging from 5 to 20 years among the states in which the Company is subject to tax to reduce future state income taxes payable. Cumulative state net operating losses carrying forward into 2016 are

(Dollars in thousands, except per share amounts)

$461,980. A valuation allowance of $12,789 has been applied against the total $18,511 of state net operating loss deferred tax assets, leaving losses of $5,722 that have been recognized for financial accounting purposes for the portion of those losses that the Company believes, on a more likely than not basis, will be realized.

Foreign net operating losses of $43,287, of which $14,563 will begin to expire in 2029 and the remaining $28,724 carried forward indefinitely, are available to reduce future foreign income taxes payable. A valuation allowance of $10,046 has been applied to $10,622 of deferred tax assets related to foreign net operating loss carry-forwards, leaving a net deferred tax asset relating to foreign net operating losses of $576 that have been recognized for financial accounting purposes.

Cash payments (refunds) for income taxes are as follows:

	December 31,		
	2015	2014	2013
Domestic	$ 143	$ 1,248	$ 366
Foreign	20,047	15,918	14,019
	$20,190	$17,166	$14,385

17. Benefit Plans:

The Company sponsors defined benefit pension plans covering employees in the United States and Canada and certain employees at its subsidiaries outside of North America (“Other”). Benefits for a majority of the Plans are based on average final pay and years of service. The Company’s funding policy is to fund the minimum required contribution under local statutory requirements. The Company uses a December 31 measurement date for its defined benefit plans.

The Company sponsors unfunded plans to provide certain health care benefits to retired employees in the United States and Canada. These plans were closed to new retirees in the United States and Canada as of December 31, 2006. The plans pay a stated percentage of medical expenses reduced by deductibles and other coverage. The plans are unfunded and obligations are paid out of the Company’s operations.

The Company also has defined benefit supplementary retirement plans which provide benefits for certain U.S. employees in excess of qualified plan limitations. The obligations are paid out of the Company’s general assets, including assets held in a Rabbi trust, or restoration plan assets.

(Dollars in thousands, except per share amounts)

Defined Benefit Plans

The following tables summarize changes in the benefit obligation, the plan assets and the funded status of our significant benefit plans as well as the components of net periodic benefit costs, including key assumptions.

	U.S. and Canada		Other	
	December 31,		December 31,	
	2015	2014	2015	2014
Change in benefit obligation:				
Benefit obligation at beginning of period	$210,546	$180,248	$ 86,410	$ 61,995
Service cost	—	—	3,269	2,708
Interest cost	7,797	8,149	2,490	3,271
Participant contributions	—	—	342	401
Plan amendments	—	—	(354)	—
Settlement	—	—	(102)	—
Benefits paid	(8,554)	(8,459)	(1,202)	(1,405)
Expenses paid	—	—	(214)	(216)
Plan combinations	—	—	—	9,929
Actuarial (gains) losses	(8,458)	32,291	(6,823)	19,374
Translation adjustment	(3,124)	(1,683)	(9,416)	(9,647)
Benefit obligation at end of the period	$198,207	$210,546	$ 74,400	$ 86,410
Change in plan assets:				
Fair value of plan assets at beginning of period	$172,445	$158,528	$ 66,022	$ 43,466
Actual return on plan assets	(2,925)	21,116	(623)	16,940
Employers contributions	289	2,745	3,224	3,269
Employee contributions	—	—	342	401
Plan settlements	—	—	(102)	—
Benefits paid	(8,554)	(8,459)	(1,202)	(1,405)
Expenses paid	—	—	(214)	(216)
Plan combinations	—	—	—	10,565
Translation adjustment	(2,811)	(1,485)	(7,286)	(6,998)
Fair value of plan assets at end of the period	$158,444	$172,445	$ 60,161	$ 66,022
Funded status of the plans (underfunded)	$ (39,763)	$ (38,101)	$(14,239)	$(20,388)

Amounts recognized in the consolidated balance sheets consist of:

	U.S. and Canada		Other	
	December 31,		December 31,	
	2015	2014	2015	2014
Noncurrent asset	$ —	$ —	$ 4,174	$ 2,066
Current liability	—	—	(300)	(429)
Noncurrent liability	(39,763)	(38,101)	(18,113)	(22,025)
Accumulated other comprehensive loss	(41,863)	(40,731)	(292)	(4,434)
Net amount recognized	$(81,626)	$(78,832)	$(14,531)	$(24,822)

(Dollars in thousands, except per share amounts)

Amounts recognized in accumulated other comprehensive loss consist of:

	U.S. and Canada		Other	
	December 31,		December 31,	
	2015	2014	2015	2014
Prior service credit	$ —	$ —	$ 1,655	$ 1,619
Net gain (loss)	(66,584)	(63,940)	(2,954)	(8,365)
Gross amount recognized	(66,584)	(63,940)	(1,299)	(6,746)
Deferred income taxes	24,721	23,209	1,007	2,312
Net amount recognized	$(41,863)	$(40,731)	$ (292)	$(4,434)

Components of net periodic benefit cost consist of:

	U.S. and Canada			Other		
	December 31,			December 31,		
	2015	2014	2013	2015	2014	2013
Service cost	$ —	$ —	$ —	$ 3,269	$ 2,708	$ 2,713
Interest cost	7,797	8,149	7,156	2,490	3,271	2,843
Expected return on plan assets	(10,696)	(11,389)	(10,673)	(2,315)	(2,492)	(2,022)
Amortization of prior service cost	—	—	—	(151)	(151)	(171)
Amortization of net (gain) loss	1,835	1,181	2,226	484	155	348
Settlement loss recognized	—	—	—	3	—	—
Net periodic expense	$ (1,064)	$ (2,059)	$ (1,291)	$ 3,780	$ 3,491	$ 3,711

The estimated net actuarial loss (gain) for the pension plans that will be amortized from accumulated other comprehensive income into benefit cost in 2016 is $1,926 in the Company's U.S. and Canada pension plans and $275 for the Company's Other pension plans. The estimated prior service cost (credit) that will be amortized from accumulated other comprehensive income into benefit cost in 2016 is ($149) for the Company's Other pension plans.

The total accumulated benefit obligation as of December 31, 2015 and 2014 for the U.S. and Canadian plans was $196,087 and $207,757, respectively. The total accumulated benefit obligation as of December 31, 2015 and 2014 for the Other pension plans was $71,551 and $82,290, respectively.

The following table presents selected information about the Company's pension plans with accumulated benefit obligations in excess of plan assets:

	U.S. and Canada		Other	
	December 31,		December 31,	
	2015	2014	2015	2014
Projected benefit obligation	$182,522	$191,187	$48,334	$57,319
Accumulated benefit obligation	182,522	191,187	45,599	53,587
Fair value of plan assets	143,887	155,454	29,920	34,865

(Dollars in thousands, except per share amounts)

Significant weighted average assumptions used in determining the pension obligations include the following:

	U.S. and Canada		Other	
	December 31,		December 31,	
	2015	2014	2015	2014
Discount rate	4.20%	3.82%	3.60%	3.26%
Compensation increase	0.28%	0.34%	2.80%	2.81%

Significant weighted average assumptions used in determining net periodic benefit cost include the following:

	U.S. and Canada			Other		
	December 31,			December 31,		
	2015	2014	2013	2015	2014	2013
Discount rate	3.82%	4.64%	3.67%	3.26%	4.69%	4.91%
Compensation increase	0.30%	0.34%	0.40%	2.81%	3.11%	3.53%
Long-term rate of return	6.45%	7.34%	7.34%	3.77%	4.59%	5.04%

The U.S. discount rates were determined by utilizing a yield curve model. The model develops a spot rate curve based on the yields available from a broad based universe of high quality corporate bonds. The discount rate is then set as the weighted average spot rate, using the plan's expected benefit cash flows as the weights.

The rate of compensation increase on the U.S. plan was zero for the years ended December 31, 2015, 2014, and 2013, as all future accruals were frozen in the United States as of December 31, 2006 in accordance with the plan amendment approved in 2005. The rate of compensation increase in determining the pension obligation on the Canadian plan was 3.50% and 3.75% for the year ended December 31, 2015 and 2014, respectively. The rate of compensation increase in determining the net periodic benefit cost on the Canadian plan was 3.75% for the years ended December 31, 2015, 2014 and 2013. In determining the expected return on plan assets, the Company considers the relative weighting of plan assets, the historical performance of total plan assets and individual asset classes, and expected future performance. In addition, the Company may consult with and consider the opinions of our external advisors in developing appropriate return benchmarks.

The investment objective for the U.S. plan is to generate returns sufficient to meet future obligations. The strategy to meet the objective includes generating attractive returns using higher returning assets such as equity securities and balancing risk using less volatile assets such as fixed income securities. The plan invests in an allocation of assets across the three broadly-defined financial asset categories of equity, fixed income and cash. The target allocations for plan assets are 45 percent equity securities and 55 percent fixed income investments.

Similar considerations are applied to the investment objectives of the non-U.S. plans as well as the asset classes available in each location and any legal restrictions on plan investments.

The Company categorized plan assets into a Fair Value Hierarchy. The hierarchy consists of three levels as follows:

- Level 1—Values are unadjusted quoted prices for identical assets and liabilities in active markets accessible at the measurement date. Active markets provide pricing data for trades occurring at least weekly and include exchanges and dealer markets. Level 1 assets primarily include investments in publicly traded equity securities and mutual funds. These securities (or the underlying investments of the funds) are actively traded and valued using quoted prices for identical securities from the market exchanges.

(Dollars in thousands, except per share amounts)

- Level 2—Inputs include quoted prices for similar assets or liabilities in active markets, quoted prices from those willing to trade in markets that are not active, or other inputs that are observable or can be corroborated by market data for the term of the instrument. Such inputs include market interest rates and volatilities, spreads and yield curves. Level 2 assets primarily consist of fixed-income securities and comingled funds that are not actively traded or whose underlying investments are valued using observable marketplace inputs. The fair value of plan assets invested in fixed-income securities is generally determined using valuation models that use observable inputs such as interest rates, bond yields, low-volume market quotes and quoted prices for similar assets. Plan assets that are invested in comingled funds are valued using a unit price or net asset value ("NAV") that is based on the underlying investments of the fund.
- Level 3—Certain inputs are unobservable (supported by little or no market activity) and significant to the fair value measurement. Unobservable inputs reflect the Company's best estimate of what hypothetical market participants would use to determine a transaction price for the asset or liability at the reporting date. Level 3 assets include investments covered by insurance policies and real estate funds valued using significant un-observable inputs.

	Fair value measurements at December 31, 2015			
	Total	Level 1	Level 2	Level 3
Cash and cash equivalents	$ 1,317	$ 1,241	$ 76	$ —
Equity securities:				
U.S. investment funds	39,064	39,064	—	—
International investment funds	44,655	24,935	19,720	—
Fixed income securities:				
Government securities	20,308	—	20,308	—
Corporate bonds	4,859	—	4,859	—
Investment fund bonds	90,021	79,211	10,810	—
Other:				
Insurance policies	18,295	—	15,237	3,058
Total	$218,519	$144,451	$71,010	$3,058

	Fair value measurements at December 31, 2014			
	Total	Level 1	Level 2	Level 3
Cash and cash equivalents	$ 1,247	$ 1,079	$ 168	$ —
Equity securities:				
U.S. investment funds	49,664	49,664	—	—
International investment funds	40,298	19,037	21,261	—
Fixed income securities:				
Government securities	17,277	—	17,277	—
Corporate bonds	4,132	—	4,132	—
Investment fund bonds	104,130	92,485	11,645	—
Other:				
Insurance policies	21,721	—	18,543	3,178
Total	$238,469	$162,265	$73,026	$3,178

(Dollars in thousands, except per share amounts)

The changes in the level 3 pension plan assets for the years ended December 31, 2015 and 2014 were as follows:

	Insurance policies
Balance at December 31, 2013	$3,259
Actual return on plan assets	24
Benefits paid	(43)
Contributions	355
Exchange rate changes	(417)
Balance at December 31, 2014	3,178
Actual return on plan assets	(77)
Benefits paid	(36)
Contributions	317
Exchange rate changes	(324)
Balance at December 31, 2015	$3,058

The Company expects to contribute $244 to the U.S. and Canada pension plans and $4,078 to the Other pension plans in 2016.

The following benefit payments, which reflect expected future service, as appropriate, are expected to be paid:

Year	U.S. and Canada	Other
2016	$10,888	$ 1,404
2017	11,226	1,961
2018	11,806	1,704
2019	11,666	2,584
2020	11,885	2,255
Years 2021-2025	61,132	15,062

Certain of the Company's foreign subsidiaries maintain other defined benefit plans that are consistent with statutory practices. These plans are not included in the disclosures above as they are not significant to the consolidated financial statements.

(Dollars in thousands, except per share amounts)

Supplemental Retirement Plans

The following tables summarize changes in the benefit obligation, the plan assets and the funded status of our defined benefit supplementary retirement plans as well as the components of net periodic benefit costs, including key assumptions.

	December 31,	
	2015	2014
Change in benefit obligation:		
Benefit obligation at beginning of period	$ 15,018	$ 13,447
Interest cost	529	556
Benefits paid	(1,179)	(1,239)
Actuarial (gain)/losses	(240)	2,254
Benefit obligation at end of period	$ 14,128	$ 15,018
Change in plan assets:		
Fair value of plan assets at beginning of period	$ —	$ —
Employers contributions	1,179	1,239
Benefits paid	(1,179)	(1,239)
Fair value of plan assets at end of period	$ —	$ —
Funded status of the plans (underfunded)	$(14,128)	$(15,018)

Amounts recognized in the consolidated balance sheets consist of:

	December 31,	
	2015	2014
Current liability	$ (1,168)	$ (1,167)
Noncurrent liability	(12,960)	(13,851)
Accumulated other comprehensive loss	(3,519)	(3,822)
Net amount recognized	$(17,647)	$(18,840)

Amounts recognized in accumulated other comprehensive loss consist of:

	December 31,	
	2015	2014
Net loss	$(5,726)	$(6,215)
Gross amount recognized	(5,726)	(6,215)
Deferred income taxes	2,207	2,393
Net amount recognized	$(3,519)	$(3,822)

Components of net periodic benefit cost consist of:

	December 31,		
	2015	2014	2013
Interest cost	$529	$556	$483
Amortization of net loss	248	150	198
Net periodic expense	$777	$706	$681

(Dollars in thousands, except per share amounts)

The estimated net actuarial loss (gain) for the pension plans that will be amortized from accumulated other comprehensive loss into benefits cost in 2016 is $216 for our defined benefit supplementary retirement plans.

The accumulated benefit obligation of our defined benefit supplemental retirement plans for the years ended December 31, 2015 and 2014 was $14,128 and $15,019, respectively.

The discount rate used in determining the supplemental retirement plan pension obligations was 4.00% and 3.60% for the years ended December 31, 2015 and 2014, respectively.

The discount rate used in determining net periodic benefit cost was 3.60%, 4.30%, and 3.30%, for the years ended December 31, 2015, 2014, and 2013, respectively. The rate of compensation increase for the fiscal years ended December 31, 2015, 2014, and 2013, was zero as all future accruals were frozen for the defined supplemental retirement plans as of December 31, 2006 in accordance with the plan amendment approved in 2005.

The Company expects to contribute $1,168 to the defined benefit supplementary retirement plans in 2016.

The following benefit payments, which reflect expected future service, as appropriate, are expected to be paid:

Year	Amount
2016	$1,168
2017	1,143
2018	1,115
2019	1,085
2020	1,055
Years 2021-2025	4,816

(Dollars in thousands, except per share amounts)

Other Postretirement Benefit Plans

The following tables summarize changes in the benefit obligation, the plan assets and the funded status of our other postretirement benefit plans as well as the components of net periodic benefit costs, including key assumptions.

	December 31, 2015	December 31, 2014
Change in benefit obligation:		
Benefit obligation at beginning of period	$ 5,586	$ 6,352
Interest cost	172	201
Employee contributions	279	281
Benefits paid	(1,306)	(1,060)
Medical subsidies received	164	93
Premiums paid	(3)	(3)
Actuarial (gain)/losses	227	(153)
Translation adjustment	(218)	(125)
Benefit obligation at end of period	$ 4,901	$ 5,586
Change in plan assets:		
Fair value of plan assets at beginning of period	$ —	$ —
Employers contributions	866	689
Employee contributions	279	281
Benefits paid	(1,306)	(1,060)
Medical subsidies received	164	93
Premiums paid	(3)	(3)
Fair value of plan assets at end of period	$ —	$ —
Funded status of the plans (underfunded)	$(4,901)	$(5,586)

Amounts recognized in the consolidated balance sheets consist of:

	December 31, 2015	December 31, 2014
Current liability	$ (747)	$ (888)
Noncurrent liability	(4,154)	(4,698)
Accumulated other comprehensive income	422	500
Net amount recognized	$(4,479)	$(5,086)

Amounts recognized in accumulated other comprehensive income consist of:

	December 31, 2015	December 31, 2014
Net gain	$ 949	$1,153
Gross amount recognized	949	1,153
Deferred income taxes	(527)	(653)
Net amount recognized	$ 422	$ 500

(Dollars in thousands, except per share amounts)

Components of net periodic benefit cost consist of:

	December 31, 2015	2014	2013
Interest cost	$172	$ 201	$185
Amortization of net (gain) loss	(61)	(112)	(36)
Net periodic expense	$111	$ 89	$149

The estimated net actuarial loss (gain) for the pension plans that will be amortized from accumulated other comprehensive income into benefits cost in 2016 is ($51) for our retiree health plans.

Significant weighted average assumptions used in determining the net periodic benefit cost, the postretirement benefit obligations, and trend rate include the following:

Benefit obligation:	December 31, 2015	2014
Discount rate (benefit obligation)	3.64%	3.32%
Immediate trend rate	7.28%	7.52%
Ultimate trend rate	4.50%	4.50%
Year that the rate reaches ultimate trend rate	2035	2028

Benefit cost:	December 31, 2015	2014	2013
Discount rate (benefit cost)	3.32%	3.66%	2.79%
Immediate trend rate	7.52%	7.72%	7.87%
Ultimate trend rate	4.50%	4.50%	4.50%
Year that the rate reaches ultimate trend rate	2028	2028	2028

A 1% change in the assumed health care cost trend would have increased (decreased) the accumulated postretirement benefit obligation at December 31, 2015 and the periodic postretirement benefit cost for the year ended as follows:

	1% Increase	1% Decrease
Accumulated postretirement benefit obligation	262	(260)
Periodic postretirement benefit cost	9	(8)

The Company expects to contribute $747 to the retiree health plans in 2016.

The following benefit payments, which reflect expected future service, as appropriate, are expected to be paid:

Year	Amount
2016	$ 747
2017	719
2018	593
2019	528
2020	460
Years 2021-2025	1,188

There are no expected Medicare subsidy receipts expected in future periods.

Certain of the Company's foreign subsidiaries maintain other postretirement benefit plans that are consistent with statutory practices. These plans are not included in the disclosures above as they are not significant to the consolidated financial statements.

Defined Contribution Plans

The Company also has defined contribution plans covering domestic employees of the Company and certain subsidiaries. The Company recorded expenses of $6,638, $7,826, and $8,713, related to these plans for the years ended December 31, 2015, 2014, and 2013, respectively.

18. Stock-Based Compensation:

The Company applies the fair value based method to account for stock options and awards.

On January 29, 2014, CPQ Holding Corporation changed its name to PQ Holdings Inc.

On September 28, 2007, the Company established the CPQ Holding Corporation Stock Incentive Plan, (the "Stock Incentive Plan"). On July 2, 2008, the Stock Incentive Plan was amended. The number of shares that may be issued under the amended Stock Incentive Plan or be subject to awards may not exceed 692,495 shares. In accordance with the Stock Incentive Plan, the Company has the authority to issue restricted stock, options, stock appreciation rights, deferred stock units, and dividends.

In 2007 and 2008, the Company issued 355,269 shares of restricted Class A common stock and 895 deferred stock units under the Stock Incentive Plan. In February 2010, the Company issued 340,981 additional shares of restricted Class A common stock under the Stock Incentive Plan, of which a portion of the shares were awarded to certain employees new to the Stock Incentive Plan and a portion of the shares were awarded to certain employees previously awarded shares in 2007 and 2008. The restricted stock includes three separate tranches for vesting purposes; (1) Service shares, (2) Tranche 1 Performance shares, and (3) Tranche 2 Performance shares. The Service shares' vesting is based on satisfying certain service conditions and the Tranche 1 and Tranche 2 shares' vesting is based on satisfying certain performance conditions. All of the Service shares vested on certain dates during 2007, 2008, 2009, 2010 and 2011, subject to the employees' continued service with the Company on such dates. In connection with the 2014 Stock Purchase, the vesting of Tranche 1 Performance shares was modified to provided that those shares will vest as follows: 100% of each grant fully vests on any Measurement Date, as defined in the amendment to the shareholder's restricted stock agreement, upon CCMP having received Proceeds, as defined, resulting in an MOI, as defined, of at least 2.0, subject to the employee's continued service with the Company through the vesting date. "MOI" is defined, as of the Measurement Date, as the quotient obtained on or prior to such Measurement Date by dividing (i) the sum of Proceeds received on such Measurement Date and all prior Measurement Dates, by (ii) the Principal Investment. All of the Tranche 2 Performance shares vested when the Company met three specified annual EBITDA targets, subject to the employees' continued service with the Company on such dates when the EBITDA targets were met. The fair value of the awards was determined using multiples of EBITDA and the income approach, based on discounted free cash flow.

In 2015, the Company issued 57,923 shares of restricted Class D common stock and 34,628 shares of Class C options. Both share issuances have various vesting features, including satisfying certain service based and performance based conditions. The fair value of the Class D common stock awards was determined based on the equity valuation from recent transactions. The fair value of the Class C options was determined using a Black-Scholes option pricing model.

(Dollars in thousands, except per share amounts)

Activity of nonvested shares of restricted Class D common stock granted under the Company's Stock Incentive Plan is shown below The weighted-average grant-date fair value of the restricted Class D common stock granted during 2015 was $160.71.

	Number of shares		Weighted average grant date fair value (per share)	
	Class A	Class D	Class A	Class D
Nonvested awards, December 31, 2014	200,665	—	$7.09	$ —
Granted during year	—	57,923	$ —	$160.71
Vested during year	—	(2,225)	$ —	$160.71
Nonvested awards, December 31, 2015	200,665	55,698	$7.09	$160.71

Compensation expense for all stock- based awards was $3,358, $0, and $1,011, for years ended December 31, 2015, 2014, and 2013, respectively, commensurate with the estimated vesting of the underlying awards.

19. Common Stock:

As of December 31, 2015 and 2014, the Company has the following capital stock:

	December 31,	
	2015	2014
Class A common stock (Par value $0.01):		
Authorized	150,000,000	150,000,000
Issued	680,678	680,678
Oustanding	582,280	582,593
Class B common stock (Par value $0.01):		
Authorized	30,000,000	30,000,000
Issued	5,100,795	5,100,795
Oustanding	5,087,995	5,087,995
Class C common stock (Par value $0.01):		
Authorized	10,000,000	10,000,000
Issued	48,820	48,820
Oustanding	48,820	48,820
Class D common stock (Par value $0.01):		
Authorized	1,500,000	1,500,000
Issued	84,258	5,800
Oustanding	84,258	5,800
Preferred stock (Par value $0.01):		
Authorized	1,500,000	1,500,000
Issued	—	—
Oustanding	—	—

In conjunction with the 2007 Merger, the Company received $315,000 of capital. In connection with the 2008 INEOS Acquisition, the Company received an additional $192,830 of capital. During 2009, the Company received an additional $2,250 of capital.

The 2007 Merger was accounted for as a purchase in accordance with U.S. GAAP. As a result of a 6.6% continuing ownership interest in PQ Holdings Inc. by certain stockholders ("Continuing Stockholders"), 93.4%

of the purchase price was allocated to the assets and liabilities acquired at their respective fair values with the remaining 6.6% recorded at the Continuing Stockholders' historical book values as of the date of the acquisition. As a result of the carryover of the Continuing Stockholders' historical basis, stockholders' equity (deficit) of PQ Holdings Inc. has been reduced by $53,532.

In connection with the 2014 Stock Purchase, Class C and Class D shares were authorized and issued. Class C and Class D shares are identical to Class A and Class B shares, respectively, except they do not have voting rights.

20. Commitments and Contingent Liabilities:

There is a risk of environmental impact in chemical manufacturing operations. The Company's environmental policies and practices are designed to ensure compliance with existing laws and regulations and to minimize the possibility of significant environmental impact. The Company is also subject to various other lawsuits and claims with respect to matters such as governmental regulations, labor, and other actions arising out of the normal course of business. No accrual for these matters currently exists, with the exception of those listed below, because management believes that the liabilities resulting from such lawsuits and claims are not probable or reasonably estimable.

The Company triggered the requirement of New Jersey's Industrial Site Recovery Act ("ISRA") statute. As required under ISRA, a General Information Notice with respect to the Company's two New Jersey locations was filed with the New Jersey Department of Environmental Protection ("NJDEP") in December 2004 and again in July 2007. Based on an initial review of the facilities by the NJDEP in 2005, the Company estimated that $500 will be required for contamination assessment and removal work at these facilities, and had recorded a reserve for such amount as of December 31, 2005. During subsequent years, it was determined that additional assessment, removal and remediation work would be required and the reserve was increased to cover the estimated cost of such work. In addition, during this period, work had been performed and the reserve was reduced for actual costs incurred for the assessment and remediation work. As of December 31, 2015 and 2014, the Company has recorded a reserve of $1,625 and $2,039 for costs required for contamination assessment and remediation work at these facilities. The amounts charged to pre-tax earnings for environmental remediation and related costs/(benefits) were $0, $(89), and $1,500, for the years ended December 31, 2015, 2014, and 2013, respectively, and are recorded as other operation expense in the consolidated statements of operations. There may be additional costs related to soil and ground water remediation, but until further investigation takes place, the Company cannot reasonably estimate the amount of additional liability that may exist.

As part of a Delaware River Basin Commission ("DRBC") required Pollutant Minimization Plan ("PMP"), in July 2013 the Company's Chester facility conducted limited paint sampling for polychlorinated biphenyls ("PCBs"). Also, as part of demolition, repair and maintenance projects scheduled for the Company's Baltimore facility in 2014, the Company conducted limited paint sampling during the fall of 2013 for waste categorization purposes. Paint samples were analyzed for PCB Aroclor 1254, the specific PCB congener commonly used in the manufacture of paint until the late 1970s. The Company's analytical results indicated that PCB Aroclor 1254 is present in paint on some structures (e.g., piping, structural steel, tanks) in excess of the fifty (50) parts per million ("ppm") regulatory threshold. Under the Toxic Substances Control Act ("TSCA"), there is no requirement to test in use paint for PCB content. However, once PCB content is identified at concentrations at or above the regulatory threshold, absent specific approval from the U.S. Environmental Protection Agency ("EPA"), the PCB-containing paint is regulated as an unauthorized use of PCBs, and the paint must be addressed. The Company is preparing to abate painted surfaces that have tested positive for PCBs at levels exceeding 50 ppm in 2015. As of December 31, 2015 and 2014, the Company recorded a reserve of $2,157 and $2,644 for the anticipated remediation costs of known PCB painted structures at the Company's Baltimore and Chester facilities. The amounts charged to pre-tax earnings for remediation costs of known PCB painted structures were \$1,000 and \$2,935, for the years ended December 31, 2015 and 2014, respectively, and are recorded as other operation expense in the consolidated statements of operations.

In 2011, the Company installed a Continuous Emissions Monitor ("CEM") to measure CO, NOx and Opacity emissions from a furnace at our Chester facility in Pennsylvania. Since this time, the Company has conducted Relative Accuracy Test Audits ("RATA") as part of its efforts to certify the CEM. On May 5, 2014, Pennsylvania Department of Environmental Protection ("PADEP") officially notified the Company that it was certifying the CEM based on RATA test results dating back to November 2011 and to start entering data previously recorded by the CEM into the Agency's on-line database. During the third and fourth quarters of 2014, the Company officially entered data recorded from the CEM up until the second quarter of 2013. On January 8, 2015, the Environmental Program Manager for the Southeast Regional Office Air Quality Program of PADEP notified the Company that it would like to meet to discuss penalty calculations associated with CO and NOx emissions based on the CEM data. The penalty amount starting with fourth quarter 2011 through the second quarter 2013 indicated in PADEP's communication to the Company totals to \$1,489. The Company is planning to meet with PADEP to propose significant reductions in the penalty amounts cited by the Agency. As of December 31, 2015 and 2014, the Company has recorded a reserve of \$1,700 and \$1,489, respectively, associated with the PADEP penalty and is recorded as other operation expense in the consolidated statements of operations.

As part of the 2008 INEOS Silicas Acquisition, the Company acquired a manufacturing facility at Warrington, United Kingdom. Asbestos-containing building material is present at the site, and asbestos removal and insulation replacement initiatives are underway. As of December 31, 2015 and 2014, the Company has recorded a reserve of \$639 and \$671, respectively, for costs related to this program.

In 2008, the Company sold the property of a manufacturing facility located in the United States to the local port authority. In 2009, the port authority commissioned an environmental investigation of portions of the property. In 2010, the port authority advised the Company of alleged soil and groundwater contamination on the property and alleged the Company liable for certain conditions. The Company received and reviewed the environmental investigation documentation and determined it may have liability with respect to some, but not all, of the alleged contamination. Respective legal counsel for the Company and the Port of Tacoma are currently engaged in efforts to negotiate the terms of a cost sharing agreement for the funding of additional study and subsequent abatement work to the extent necessary for the site. As of December 31, 2015 and 2014, the Company has recorded a reserve of \$707 and \$728, respectively, for costs related to this potential liability.

As part of the 2008 INEOS Silicas Acquisition, the Company is liable for potential multi-year UK tax benefits. The Company is contractually obligated to make a payment on an annual basis on its UK taxable results, which can fluctuate period to period, until there is a change in control, as defined in the purchase agreement. As of December 31, 2015 and 2014, the Company has accrued \$5,385 and \$6,457, respectively, for this matter representing the expected payment owed on the calculation of the liability for the tax year ended 2015 and 2014. The Company recorded these expenses as transaction related costs in other operating expense, net.

The Company has entered into various lease agreements for the rental of office and plant facilities and equipment, substantially all of which are classified as operating leases. Total rent expense under these agreements was \$14,551, \$13,476, and \$10,939, for the years ended December 31, 2015, 2014, and 2013, respectively.

(Dollars in thousands, except per share amounts)

Total rent due under non-cancelable operating lease commitments are:

Year	Amount
2016	$10,659
2017	7,714
2018	4,398
2019	2,754
2020	1,905
Thereafter	3,964
	$31,394

The Company rents its corporate office under a long-term operating lease agreement, which contains a provision for a mid-term rent increase. The Company records monthly rent expense equal to the total of the payments due over the lease term, divided by the number of months of the lease term. The difference between rent expense recorded and the amount paid is credited or charged to deferred rent liability, which is reflected in the consolidated balance sheet.

The Company has entered into short and long-term purchase commitments for various key raw materials and energy requirements. The purchase obligations include agreements to purchase goods that are enforceable and legally binding and that specify all significant terms. The purchase commitments covered by these agreements are with various suppliers and total approximately $13,031.

Purchases under these agreements are expected to be:

Year	Amount
2016	$ 6,108
2017	2,240
2018	1,130
2019	775
2020	775
Thereafter	2,003
	$13,031

21. Related Party Transactions:

The Company maintains certain policies and procedures for the review, approval, and ratification of related party transactions to ensure that all transactions with selected parties are fair, reasonable and in the Company's best interest. All significant relationships and transactions are separately identified by management if they meet the definition of a related party or a related party transaction. Related party transactions include transactions that occurred during the year, or are currently proposed, in which the Company was or will be a participant and which any related person had or will have a direct or indirect material interest. All related party transactions are reviewed, approved and documented by the appropriate level of the Company's management in accordance with these policies and procedures.

PQ Holdings Inc., TC Group IV, L.L.C., an affiliate of The Carlyle Group, and PQ Corporation entered into a consulting agreement relating to the provision of certain financial and strategic advisory services and consulting services. The Company paid a one-time fee in the amount of $12,000 on July 30, 2007 for structuring the 2007 Merger. In addition, the Company agreed to pay an annual monitoring fee equal to $2,000. In conjunction with the 2008 INEOS Silicas Acquisition, the consulting agreement was amended whereby the Company agreed to increase the annual monitoring fee equal to $3,000, which was recorded in other operating expense in the consolidated statements of operations for the years ended December 31, 2014 and 2013. TC Group IV, L.L.C. assigned the consulting agreement to Carlyle Investment Management L.L.C., another affiliate of The Carlyle Group on June 7, 2012.

PQ Holdings Inc., INEOS, and PQ Corporation entered into a consulting agreement relating to the provision of certain financial and strategic advisory services and consulting services. The Company paid a one-time fee in the amount of $6,000 on July 2, 2008 for structuring the 2008 INEOS Silicas Acquisition. In addition, the Company agreed to pay an annual monitoring fee equal to $2,000, which was recorded in other operating expense in the consolidated statements of operations for the years ended December 31, 2014 and 2013.

In conjunction with the 2014 Stock Purchase, PQ Holdings Inc., CCMP, and PQ Corporation entered into a consulting agreement relating to the provision of certain financial and strategic advisory services and consulting services. Similarly, the consulting agreement between PQ Holdings, INEOS, and PQ Corporation was amended and restated. Under the new consulting agreements, the Company agreed to pay an annual monitoring fee of $5,000 distributed to CCMP and INEOS equal to the Pro Rata Percentage, as defined, between CCMP and INEOS, which was recorded in other operating expense in the consolidated statements of operations for the year ended December 31, 2015.

The Company entered into a Joint Venture Agreement (the “ZI Partnership Agreement”) in 1988 with CRI Zeolites Inc., a Royal Dutch Shell plc affiliate, to form Zeolyst International, our 50/50 joint venture partnership (the “Partnership”). Under the terms of the ZI Partnership Agreement, the Partnership leases certain land used in its Kansas City production facilities from PQ Corporation. This lease, which has been recorded as an operating lease, provided for rental payments of $265, $250, and $235 for the years ended December 31, 2015, 2014 and 2013, respectively. The terms of this lease are evergreen as long as the Partnership agreement is in place. The Partnership purchases certain of its raw materials from the Company and is charged for various manufacturing costs incurred at the Company’s Kansas City production facility. The amount of these costs charged to the Partnership during the years ended December 31, 2015, 2014, and 2013, were $14,551, $14,284, and $13,044, respectively. Certain administrative, marketing, engineering, management-related, and research and development services are provided to the Partnership by the Company. During the years ended December 31, 2015, 2014, and 2013, the Partnership was charged $12,551, $10,164, and $9,769, respectively, for these services. In addition, the Partnership was charged certain product demonstration costs of $1,598, $1,832, and $1,970, during the years ended December 31, 2015, 2014, and 2013, respectively.

From time to time, the Company makes sales to portfolio companies of funds that are affiliated with CCMP and companies that are affiliated with INEOS, but these sales are not material.

22. Customer Concentration:

There were no single customers with revenue transactions greater than 10% of total revenues for the years ended December 31, 2015, 2014, and 2013.

23. Subsequent Events:

The Company has evaluated subsequent events from the balance sheet date through March 5, 2016, the date at which the financial statements were available to be issued, and determined there are no additional items to disclose.

INDEPENDENT AUDITOR'S REPORT

To the Board of Directors
Eco Services Operations LLC

We have audited the accompanying consolidated financial statements of Eco Services Operations LLC and its subsidiary, which comprise the consolidated balance sheet as of December 31, 2015, and the related consolidated statements of operations, comprehensive income (loss), member's equity, and cash flows for the year then ended.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on the consolidated financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the Company's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Eco Services Operations LLC and its subsidiary at December 31, 2015, and the results of their operations and their cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.

/s/ PricewaterhouseCoopers LLP
PricewaterhouseCoopers LLP
March 28, 2016

PricewaterhouseCoopers LLP, Two Commerce Square, Suite 1700, 2001 Market Street, Philadelphia, PA 19103-7042
T: (267) 300-3000, F: (267) 330-3300, www.pwc.com/us

Deloitte.

Deloitte & Touche LLP
100 Kimball Drive
Parsippany, NJ 07054
USA
Tel: +1 973 602 6000
Fax: +1 973 602 5050
www.deloitte.com

INDEPENDENT AUDITORS' REPORT

To the Board of Directors and Stockholder of Eco Services Operations LLC

We have audited the accompanying consolidated financial statements of Eco Services Operations LLC and subsidiary (Successor) and the financial statements of Eco, a component of Solvay USA Inc. (Predecessor), which comprise the Successor balance sheet as of December 31, 2014, and the related statements of operations, changes in member's equity/parent company investment, and cash flows for the Successor period from inception (July 30, 2014) to December 31, 2014 and the Predecessor period January 1, 2014 to November 30, 2014 and for the year ended December 31, 2013, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements of Eco Services Operations LLC referred to above present fairly, in all material respects, the financial position of Eco Services Operations LLC and subsidiary, as of December 31, 2014, and the results of their operations and their cash flows for the period from inception (July 30, 2014) to December 31, 2014 in accordance with accounting principles generally accepted in the United States of America. Further, in our opinion, the financial statements of Eco, a component of Solvay USA Inc., referred to above present fairly, in all material respects, the results of operations and cash flows of Eco, a component of Solvay USA Inc., for the period January 1, 2014 to November 30, 2014 and for the year ended December 31, 2013, in accordance with accounting principles generally accepted In the United States of America.

Emphasis of Matter

As discussed in Note 2 to the financial statements, the accompanying Predecessor financial statements have been 'carved out' from Solvay USA Inc.'s financial statements using assumptions and allocations made by Solvay USA Inc. to depict Eco on a stand-alone basis and may not necessarily be indicative of Eco's financial position, results of operations, or cash flows had Eco operated as a stand-alone entity. Our opinion is not modified with respect to this matter.

/s/ Deloitte & Touche LLP

May 15, 2015

ECO SERVICES OPERATIONS LLC (A WHOLLY-OWNED SUBSIDIARY OF ECO SERVICES INTERMEDIATE HOLDINGS LLC)
CONSOLIDATED BALANCE SHEETS

(in thousands)	December 31, 2015	December 31, 2014
Assets		
Current assets		
Cash and cash equivalents	$ 25,155	$ 22,627
Accounts receivable, net	34,333	34,162
Other receivables	8	23,673
Inventories	10,179	8,818
Prepaid expenses and other current assets	1,850	2,576
Total current assets	71,525	91,856
Noncurrent assets		
Property, plant, and equipment, net	484,957	472,156
Goodwill	311,892	310,191
Intangibles, net	137,284	147,353
Other noncurrent assets	5,862	3,538
Total noncurrent assets	939,995	933,238
Total assets	$1,011,520	$1,025,094
Liabilities and members' equity		
Current liabilities		
Current portion of senior secured credit facilities, net of discount of $330 and $314 and financing costs of $1,932 and $1,843, at December 31, 2015 and 2014, respectively	$ 2,738	$ 2,843
Current portion of capital lease obligations	251	237
Accounts payable	17,001	19,340
Other payables	—	8,078
Accrued interest payable	2,947	5,209
Accrued expenses	12,062	12,378
Accrued wages, salaries, and employee benefits	12,067	15,616
Current portion of pension liability	—	14,923
Other current liabilities	8,442	6,778
Total current liabilities	55,508	85,402
Noncurrent liabilities		
Senior secured credit facilities, net of current portion, discount of $1,830 and $2,160 and financing costs of $10,722 and $12,654, at December 31, 2015 and 2014, respectively	477,448	480,186
Senior unsecured notes, net of financing costs of $7,085 and $7,775, at December 31, 2015 and 2014, respectively	192,915	192,225
Long-term portion of capital lease obligations	917	1,165
Environmental reserve	2,934	4,783
Supply contract obligation	23,888	25,526
Pension liability	20,239	17,983
Total noncurrent liabilities	718,341	721,868
Total liabilities	773,849	807,270
Commitments and contingent liabilities		
Member's equity	237,671	217,824
Total member's equity	237,671	217,824
Total liabilities and member's equity	$1,011,520	$1,025,094

The accompanying notes are an integral part of these consolidated financial statements.

ECO SERVICES OPERATIONS LLC (A WHOLLY-OWNED SUBSIDIARY OF ECO SERVICES INTERMEDIATE HOLDINGS LLC)
CONSOLIDATED STATEMENTS OF OPERATIONS

	Successor		Predecessor	
(in thousands)	Year ended December 31, 2015	Period from inception (July 30, 2014) to December 31, 2014	Period from January 1, 2014 to November 30, 2014	Year ended December 31, 2013
Net sales	$ 388,875	$ 35,539	$ 361,823	$ 390,834
Cost of sales	(282,795)	(30,712)	(271,635)	(286,371)
Gross profit	106,080	4,827	90,188	104,463
Selling, general, and administrative expenses	(47,927)	(18,418)	(45,168)	(45,697)
Provision for environmental reserve	—	—	213	(1,174)
Operating profit (loss)	58,153	(13,591)	45,233	57,592
Other income	—	—	—	3,266
Interest expense, net	(44,348)	(8,470)	(86)	(122)
Income (Loss) before income taxes	13,805	(22,061)	45,147	60,736
Provision for income taxes	—	—	(14,602)	(21,445)
Net income (loss)	$ 13,805	$(22,061)	$ 30,545	$ 39,291

The accompanying notes are an integral part of these consolidated financial statements.

ECO SERVICES OPERATIONS LLC (A WHOLLY-OWNED SUBSIDIARY OF ECO SERVICES INTERMEDIATE HOLDINGS LLC)
CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME (LOSS)

(in thousands)	Successor		Predecessor	
	Year ended December 31, 2015	Period from inception (July 30, 2014) to December 31, 2014	Period from January 1, 2014 to November 30, 2014	Year ended December 31, 2013
Net income (loss)	$13,805	$(22,061)	$30,545	$39,291
Other comprehensive income:				
Pension and postretirement benefits ($0 tax)	648	—	—	—
Total other comprehensive income (loss)	14,453	(22,061)	30,545	39,291
Comprehensive income (loss)	$14,453	$(22,061)	$30,545	$39,291

The accompanying notes are an integral part of these consolidated financial statements.

ECO SERVICES OPERATIONS LLC (A WHOLLY-OWNED SUBSIDIARY OF ECO SERVICES INTERMEDIATE HOLDINGS LLC)
CONSOLIDATED STATEMENT OF CHANGES IN MEMBER'S EQUITY/PARENT COMPANY INVESTMENT

(in thousands)	Parent company investment	Member's equity	Accumulated loss	Accumulated other comprehensive income	Total
Predecessor					
Balance—December 31, 2012	$541,503	$ —	$ —	$—	$541,503
Net income	39,291	—	—	—	39,291
Net transfers to Parent	(40,579)	—	—	—	(40,579)
Balance—December 31, 2013	540,215	—	—	—	540,215
Net income	30,545	—	—	—	30,545
Net transfers to Parent	(24,206)	—	—	—	(24,206)
Balance—November 30, 2014	$546,554	$ —	$ —	$—	$546,554
Balance—December 1, 2014	$ —	$239,885	$ —	$—	$239,885
Net loss	—	—	(22,061)	—	(22,061)
Balance—December 31, 2014	—	239,885	(22,061)	—	217,824
Net income	—	—	13,805	—	13,805
Other Comprehensive Income	—	—	—	648	648
Equity Contribution	—	3,138	—	—	3,138
Stock compensation for restricted stock awards	—	2,256	—	—	2,256
Balance—December 31, 2015	$ —	$245,279	$ (8,256)	$648	$237,671

The accompanying notes are an integral part of these consolidated financial statements.

ECO SERVICES OPERATIONS LLC (A WHOLLY-OWNED SUBSIDIARY OF ECO SERVICES INTERMEDIATE HOLDINGS LLC)
CONSOLIDATED STATEMENT OF CASH FLOWS

(in thousands)	Successor: Year ended December 31, 2015	Successor: Period from inception (July 30, 2014) to December 31, 2014	Predecessor: Period from January 1, 2014 to November 30, 2014	Predecessor: Year ended December 31, 2013
Cash flows from operating activities				
Net (loss) income	$ 13,805	$ (22,061)	$ 30,545	$ 39,291
Adjustments to reconcile to net cash (used in) provided by operating activities:				
Depreciation and amortization	35,369	2,955	42,458	43,495
Amortization of debt issuance costs	2,801	229	—	—
Accretion of discount on senior secured credit facilities	314	26	—	—
Stock compensation expense	2,256	—	535	681
Pension expense	2,900	—	—	—
Pension funding	(14,937)	—	—	—
Deferred income tax benefit	—	—	(10,264)	(1,174)
Loss on disposal of fixed assets	3,911	—	—	—
Changes in assets and liabilities, net of acquisition:				
Accounts receivable	(280)	(7,881)	(4,105)	4,115
Other receivables	23,335	—	47	6,605
Inventories	(1,738)	4,855	(5,216)	3,525
Prepaid expenses and other current assets	726	(2,199)	(80)	(185)
Other noncurrent assets	(1,019)	(60)	134	12
Accounts payable	(1,616)	(1,568)	6,832	(6,120)
Other payables	(8,078)	7,224	—	—
Accrued expenses and other current liabilities	(3,086)	10,891	2,617	(2,537)
Accrued interest payable	(2,262)	5,209	—	—
Other long-term liabilities	(3,487)	342	(2,127)	(619)
Long-term deferred revenue	—	—	(3,575)	(2,641)
Net cash provided by (used in) operating activities	48,914	(2,038)	57,801	84,448
Cash flows from investing activities				
Acquisition of Eco Services, net of cash acquired	—	(885,440)	—	—
Purchase of property, plant and equipment	(40,994)	(2,892)	(32,690)	(41,675)
Noncurrent deposit	(1,555)	—	—	—
Purchase of intangibles	(141)	(15)	(162)	(28)
Net cash used in investing activities	(42,690)	(888,347)	(32,852)	(41,703)
Cash flows from financing activities				
Proceeds from issuance of member's equity	1,538	239,885	—	—
Proceeds (repayments) from senior secured credit facility borrowings	(5,000)	497,500	—	—
Proceeds from of senior unsecured notes	—	200,000	—	—
Proceeds (repayments) from revolving credit facility	12,000	—	—	—
Repayments from revolving credit facility	(12,000)	—	—	—
Debt issuance costs	—	(24,354)	—	—
Borrowings related to capital leases	—	—	—	—
Payments on capital leases	(234)	(19)	(208)	(1,485)
Net transfers to Parent	—	—	(24,741)	(41,260)
Net cash (used in) provided by financing activities	(3,696)	913,012	(24,949)	(42,745)
Increase in cash and equivalents	2,528	22,627	—	—
Cash and equivalents at beginning of period	22,627	—	—	—
Cash and equivalents at end of period	$ 25,155	$ 22,627	$ —	$ —
Supplemental disclosure of cash flow information:				
Cash paid for interest	$ 44,074	$ 1	$ 59	$ 145
Schedule of non cash investing activities:				
Capital expenditures acquired on account but unpaid as of the period end	$ 877	$ —	$ —	$ —
Schedule of non cash financing activities:				
Issuance of member's equity for non-cash contribution	$ 1,600	$ —	$ —	$ —

The accompanying notes are an integral part of these consolidated financial statements.

ECO SERVICES OPERATIONS LLC (A WHOLLY-OWNED SUBSIDIARY OF ECO SERVICES INTERMEDIATE HOLDINGS LLC)
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(All dollar amounts are in thousands)

1. Organization and Nature of Operations

On July 30, 2014, Eco Services Operations LLC, ("Eco Services" or the "Company") a Delaware limited liability company and an indirect subsidiary of funds advised by CCMP Capital Advisors LLC ("CCMP") entered into an Asset Purchase Agreement with Solvay USA Inc., a Delaware corporation ("Solvay"), which provided for the sale, transfer and assignment by Solvay, and the acquisition, acceptance and assumption by Eco Services, of substantially all of the assets of Solvay's Eco Services business unit for sulfuric acid virgin production and regeneration business operations in the United States (the "Acquisition"), which constitutes Eco Services going forward. The Acquisition closed on December 1, 2014. The purchase price for the Eco Services business was $890,000 in cash, subject to adjustment for certain items, including the actual level of working capital at the closing of the Acquisition (refer to Note 5, "Acquisition"). The Company is a wholly owned subsidiary of Eco Services Intermediate Holdings LLC ("Intermediate Holdings"). The Company serves a variety of markets, including the oil refining, nylon, mining, general industrial and chemical industries. Eco Services operates a network of acid plants at six locations.

Prior to the Acquisition, Eco Services operated within Solvay, which is an indirect, wholly owned subsidiary of Solvay SA, an international industrial group active in chemistry headquartered in Brussels, Belgium.

On August 18, 2015, the Company announced that Eco Services Group Holdings LLC ("Holdings"), PQ Corporation and certain of their respective affiliates had signed a definitive agreement pursuant to which PQ Corporation and Holdings will reorganize under a newly formed holding company (the "Combined Company"). The Combined Company will retain the PQ Corporation name. PQ Corporation is a global provider of specialty inorganic performance chemicals, high-end catalysts and engineered glass beads.

PQ Corporation's existing indirect shareholders (affiliates of CCMP, affiliates of INEOS Capital Partners and PQ Corporation's management) and Holdings existing indirect equity holders (affiliates of CCMP and management) will constitute the sole shareholders of the Combined Company immediately following the closing of the business combination. The business combination will not constitute a change in control under the Company's existing Senior Credit Agreement and existing Senior Notes, as CCMP will control the majority of the outstanding equity of the Combined Company after the transactions. The completion of the transactions is subject to certain closing conditions that are customary for transactions of this type, including regulatory clearance.

2. Basis of Presentation

These consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP"). All dollar amounts presented herein are in thousands.

On December 1, 2014, the Company acquired substantially all of Solvay's Eco Services business unit. The Company applied the acquisition method of accounting in accordance with Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 805—*"Business Combinations*". The consolidated financial statements as of December 31, 2015 and 2014 and the period from inception (July 30, 2014) to December 31, 2014 reflect the financial results and financial position of the Company and its wholly-owned subsidiary, Eco Finance Corp. on a stand-alone basis (the "Successor Financial Statements").

The financial statements prior to the acquisition of Solvay's Eco Service business unit reflect the financial results and financial position based upon the historical cost basis of Solvay's Eco Services business unit, and include amounts that have been "carved out" from the Solvay's financial statements using assumptions and allocations made by Solvay to depict Solvay's Eco Services business unit on a stand-alone basis (the "Predecessor Financial Statements"). As a result, the Predecessor Financial Statements included herein may not necessarily be indicative of Solvay's Eco Services business unit results of operations or cash flows had Solvay's Eco Services business unit operated solely as a stand-alone entity during the periods presented.

The Predecessor Financial Statements were prepared using the historical basis of the assets and liabilities of Solvay's Eco Services business unit and include all sales, costs, assets and liabilities directly attributable to Solvay's Eco Services business unit. In addition, certain expenses reflected in these Predecessor Financial Statements are based on allocations of corporate expenses from Solvay using methodologies that in the opinion of management are reasonable and consistently applied (refer to Note 14 "Relationship with Solvay"). All such expenses are deemed to have been paid by Solvay's Eco Services business unit to Solvay in the period in which the expenses were incurred. Net changes in Parent company investment in Solvay's Eco Services business unit as shown in the statements of Member's Equity / Parent company investment and of cash flow for December 31, 2013 include amounts due to / from Solvay that are not regularly settled and, therefore, resemble investment of such amounts by Solvay.

Solvay used a centralized approach to cash management and financing the operations of Solvay's Eco Services business unit as needed. Transactions between Solvay and Solvay's Eco Services business unit were accounted for through Parent company investment. Accordingly, none of the cash, cash equivalents, debt or related interest expense at the Solvay level in the Predecessor Financial Statements has been assigned to Solvay's Eco Services business unit with the exception of capital lease obligations and related interest expense that specifically relate to Solvay's Eco Services business unit.

3. Summary of Significant Accounting Policies

The principal accounting policies applied in the preparation of these financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

New Standards, Interpretations and Amendments

Changes to U.S. GAAP are established by the FASB in the form of Accounting Standards Updates ("ASU's") to the FASB's ASC. Management considers the applicability and impact of all ASU's. ASU's not listed were assessed and determined to be either not applicable or are expected to have minimal impact on the financial position or results of operations.

In February 2016, the FASB issued guidance that amends the accounting for leases. Under the new guidance, a lessee will recognize assets and liabilities for most leases but will recognize expenses similar to current lease accounting. The guidance is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018. Early adoption is permitted. The new guidance must be adopted using a modified retrospective transition, and provides for certain practical expedients. The Company is currently evaluating the impact that the new guidance will have on its consolidated financial statements.

In May 2014, the FASB issued ASU 2014-09, "*Revenue from Contracts with Customers*", which provides guidance for revenue recognition. The standard's core principle is that a company should recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. This ASU also requires additional disclosures. These new requirements for nonpublic entities become effective for annual reporting periods beginning after December 15, 2018, and interim periods within fiscal years beginning after December 15, 2019. A nonpublic entity may elect early application, but no earlier than December 15, 2017, the effective date for public entities. The Company is assessing the impact of these new requirements on its financial statements.

In January 2015, the FASB issued ASU 2015-01, *Simplifying Income Statement Presentation by Eliminating the Concept of Extraordinary Items*. Under this ASU, an entity will no longer be allowed to separately disclose extraordinary items, net of tax, in the income statement after income from continuing operations if an event or transaction is unusual in nature and occurs infrequently. ASU 2015-01 is effective for interim and annual reporting periods beginning after December 15, 2015 with early adoption permitted. The Company has adopted ASU 2015-01 effective December 31, 2015. The adoption did not have any impact on the Company's financial position, results of operations or cash flows.

In July 2015, the FASB issued ASU 2015-11, *"Simplifying the Measurement of Inventory"*. The standard requires an entity to measure inventory at the lower of cost and net realizable value. Net realizable value is the estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation. These amendments do not apply to inventory that is measured using last-in, first out or the retail inventory method. The amendments apply to all other inventory, which includes inventory that is measured using first-in, first-out or average cost. The requirements of this standard are effective for financial statements issued for fiscal years beginning after December 15, 2016 with early adoption permitted. The Company is currently in the process of evaluating the impact of adoption of this ASU on its financial statements.

In August 2015, the FASB issued ASU 2015-15, "*Presentation and Subsequent Measurement of Debt Issuance Costs Associated with Line-of-Credit Arrangements*". As described above, the FASB issued ASU 2015-03, which does not address presentation or subsequent measurement of debt issuance costs related to line-of-credit arrangements. ASU 2015-15 adds Securities & Exchange Commission ("SEC") paragraphs pursuant to the SEC Staff Announcement at the June 18, 2015 Emerging Issues Task Force ("EITF") meeting. Given the absence of authoritative guidance within Update 2015-03 for debt issuance costs related to line-of-credit arrangements, ASU 2015-15 adds language from the EITF that the SEC staff would not object to an entity deferring and presenting debt issuance costs as an asset and subsequently amortizing the deferred debt issuance costs ratably over the term of the line-of-credit arrangement, regardless of whether there are any outstanding borrowings on the line-of-credit arrangement. The Company has adopted the requirements of this standard as described above.

In September 2015, the FASB issued ASU 2015-16, "*Simplifying the Accounting for Measurement-Period Adjustments*". The standard will change the requirements for reporting measurement period adjustments to provisional amounts initially recognized in conjunction with a business combination. Under U.S. GAAP, an acquiring entity currently is required to retrospectively adjust, in prior period financial statements, the provisional amounts to reflect new information obtained during the measurement period (a period, which may not exceed one year from the date of the business combination, during which the acquiring entity may receive information about the facts and circumstances existing as of the acquisition date that, if known, would have affected the measurement of the amounts recognized as of the acquisition date). Under the new guidance, adjustments to the provisional amounts will be reflected in the financial statements for the reporting period in which the adjustments are determined, including by recognizing in current period earnings the full effect of changes in depreciation, amortization or other income effects. The guidance requires that the acquiring entity either present separately on the face of the current period income statement or disclose in the notes to the current period financial statement, by line item, the amount of the adjustments made during the current period. The new guidance for nonpublic entities will be effective for fiscal years beginning after December 15, 2016, and interim periods within fiscal years beginning after December 15, 2017. The amendments should be applied prospectively to adjustments to provisional amounts that occur after the effective date of the guidance with earlier application permitted for financial statements that have not yet been made available for issuance. The Company has elected to adopt the requirements of this standard as of December 31, 2015.

Use of Estimates

The preparation of the financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect reported amounts. The more significant estimates include fair value estimates for the application of acquisition accounting (Successor Financial Statements only), allocations of expenses from Solvay (Predecessor Financial Statements only), impairment analyses, inventory reserves, environmental reserves, and certain accrued expenses (Successor and Predecessor financial statements). Actual amounts may differ from these amounts.

Receivables and Allowance for Doubtful Accounts

Receivables are recognized net of an allowance for doubtful accounts. The allowance for doubtful accounts receivable reflects the best estimate of losses inherent in the accounts receivable portfolio determined on the basis of historical experience, specific allowances for known troubled accounts and other available evidence. Accounts receivable are written off when management determines they are uncollectible.

Inventories

Inventories are valued at the lower of cost or market. Cost is determined on the basis of the weighted average cost method. Finished products are measured at the cost of production which includes, in addition to the cost of raw materials, the costs incurred in bringing the inventories to their present location and condition and an allocation of overhead costs, excluding administrative overhead costs.

Property, Plant and Equipment

Property, plant and equipment are stated at cost less accumulated depreciation. Major renewals and improvements are capitalized. The Company capitalizes costs associated with the implementation of purchased software. Maintenance, repairs and minor renewals are expensed as incurred. The cost and related accumulated depreciation of all property, plant and equipment retired or otherwise disposed of are eliminated from the accounts and any resulting gain or loss is reflected in the results of operations. Depreciation is calculated on the straight-line basis over the estimated useful lives of the related assets, generally ranging from nine to twenty-two years for buildings and improvements, and three to twenty years for machinery and equipment. Leasehold improvements are amortized over the life of the lease or the estimated useful life of the improvement, whichever is shorter.

Spare Parts

Spare parts are maintained by each facility to keep machinery and equipment in working order. Spare parts are capitalized and included in other long-term assets. Those spare parts are measured at cost and are not depreciated or expensed until utilized; however, reserves may be provided on aged spare parts. When a spare part is utilized as part of an improvement to property, plant and equipment, the carrying value is depreciated over the applicable life once placed in service. Otherwise, the spare part is expensed and charged as a cost of production when utilized.

(All dollar amounts are in thousands)

Goodwill

The following table summarizes the changes in the Company's goodwill:

Balance at December 1, 2014	$310,203
Adjustments	(12)
Balance at December 31, 2014	310,191
Adjustments	1,701
Balance at December 31, 2015	$311,892

On December 1, 2014, the Company acquired substantially all of Solvay's Eco Services business unit and accounted for the acquisition in accordance with ASC 805. Under the purchase method of accounting, the acquired assets were recorded at their respective fair values as of the date of acquisition. The purchase price was allocated to tangible assets acquired and liabilities assumed based upon their estimated fair values. The purchase price allocation, which is based on the estimated fair value of net assets acquired, resulted in the Company recording goodwill of $311,892. The Company believes that expected synergies of the acquisition is the primary reason that contributed to a total purchase price that resulted in the recognition of goodwill.

The Company has historically assessed the impairment of goodwill and the tradename indefinite-lived intangible asset on an annual basis at December 31, and also at any other date when events or changes in circumstances indicate that book value may exceed fair value. The estimate of fair value is highly subjective and requires significant judgment related to, among other things, the estimate of the magnitude and timing of future cash flows. During the three months ended December 31, 2015, the Company voluntarily changed its annual impairment assessment date to October 1, for goodwill and indefinite-lived intangible asset. The change was made to more closely align the impairment testing date with its strategic planning process, preparation of its long-term financial budget and cash flow projections and to ensure annual testing occurs within one year of the December 1, 2014 Acquisition.

The Company's management believes that this change in measurement date, which represents a change in method of applying an accounting principle, is preferable under the circumstances, and did not result in the delay, acceleration or avoidance of an impairment charge. The Company prospectively applied the change to the annual impairment assessment date beginning October 1, 2015, as there was no impairment assessment performed as of December 31, 2014, as the Acquisition occurred December 1, 2014. As a result of the impairment testing completed as of October 1, 2015, management has determined that there was no impairment of goodwill or indefinite-lived intangible asset.

Intangible Assets

Intangible assets are carried at cost in the balance sheet, less accumulated amortization if applicable. Major intangible assets include customer relationships, developed technology and trade name (refer to Note 10, "Intangible assets, net"), as well as environmental permits. Definite lived intangible assets are amortized using the straight-line method over their expected period of use. Amortization methods and useful lives are reviewed at least once a year, or more frequently if factors change that could impact the life of the underlying assets. In the Successor Financial Statements, the estimated useful lives for customer lists, developed technology and permits, is fifteen years, fourteen years and five years, respectively. In the Predecessor Financial Statements, the estimated useful life for both the customer relationship and developed technology intangible assets is fifteen years. The estimated useful lives range five to ten years for environmental permits.

Definite lived intangible assets are assessed for impairment whenever events indicate a possible loss. Such an assessment involves estimating undiscounted cash flows over the remaining useful life of the intangible asset. If the assessment indicates that undiscounted cash flows are less than the recorded value of the intangible asset, the carrying amount of the intangible asset is reduced by the estimated cash-flow shortfall on a discounted basis, and a corresponding loss is recorded. There were no intangible asset impairments recorded during the periods presented.

Impairment of Other Long-Lived Assets

Other long-lived assets are reviewed for impairment when conditions exist that indicate the carrying amount of the assets may not be fully recoverable by performing undiscounted operating cash flow analyses. When testing assets for impairment, assets and liabilities are grouped at the lowest level for which cash flows are separately identifiable. If an impairment is determined to exist, the loss is calculated based on fair value. There were no other long-lived assets impairments recorded during the periods presented.

Debt Issuance Costs

Concurrent with the consummation of the Acquisition, the Company entered into a $500,000 senior seven year term loan facility and $55,000 five year revolving credit facility (the “Senior Secured Credit Facility”), and also issued $200,000 in aggregate senior unsecured notes (the “Senior Notes”). In connection with the issuance of this debt, the Company incurred debt issuance costs associated with the senior secured term loan, revolving credit facility and senior unsecured notes, respectively. The Company has reported the debt issuance costs in the balance sheet as a direct deduction from the face amount of the related debt for both the term loan facility and the senior unsecured notes. The unamortized debt issuance costs related to the unused revolving credit facility are presented in other noncurrent assets.

Accretion/amortization of the debt issuance costs are reported as interest expense. Debt issuance costs related to the senior secured term loan and senior notes are accreted under the effective interest method over the term of the respective debt. The debt issuance costs related to the revolving credit facility are amortized on a straight-line basis over the term of this facility.

Insurance/Self-Insurance

Certain risks where permitted by law or regulation, including employee related benefits and workers’ compensation are self-insured. In the Successor Financial Statements liabilities associated with these risks are estimated in part by considering historical claims experience, demographic factors and other actuarial assumptions. Liabilities associated with employee related benefits and workers’ compensation in the Predecessor Financial Statements were allocated from Solvay based on Solvay’s Eco Services business unit’s headcount and the dollar value of historical claims incurred, respectively.

Derivative Liabilities

A derivative liability has been identified which is related to the interest rate adjustment features of the senior secured credit facilities and senior unsecured notes. For derivative instruments that are accounted for as liabilities, the derivative instrument is initially recorded at its fair value and is then re-valued at each reporting date, with changes in fair value recognized in earnings each reporting period. This derivative liability has been evaluated and the value of this derivative liability was determined to be de minimus because the probability of an interest rate adjustment to the Libor interest rate occurring due to a change in reserve requirements as a function of Federal Reserve policy is very low. Although management does not expect the reserve rate to change in the foreseeable future, management will continue to monitor reserve requirements that could result in the embedded derivative having value. Derivative instrument liabilities, if any, are classified in the consolidated balance sheets as current or non-current based on whether or not the net-cash settlement of the derivative instrument could be required within twelve months of the balance sheet date.

Environmental Liabilities

The Company's operations are subject to extensive and changing federal and state environmental laws and regulations. Certain manufacturing sites have an extended history of industrial use. As is typical in the specialty chemicals business, soil and groundwater contamination has occurred in the past at certain sites and might occur or be discovered in the future at other sites. Investigation and remediation or monitoring soil and groundwater contamination is currently in process at certain of these sites. In addition, the Company is currently involved as a potentially responsible party under federal and state statutes requiring remediation resulting from past waste disposal practices at certain sites, including inactive sites. Currently, the Company is participating in environmental assessments, remedial investigations/feasibility studies and remediation efforts at these and other sites that may involve additional environmental costs in the future.

Periodic analyses are performed for environmental risks and the corresponding provisions. The provisions are measured to the best of management's knowledge and applicable regulations, the nature and extent of the contamination, clean up techniques and other available information.

The accrual for environmental liabilities was $4,791 and $5,111 at December 31, 2015 and 2014, respectively, of which $2,934 and $4,783 were included in noncurrent liabilities, respectively. Environmental liabilities are estimated to be paid out through 2043. The impact of changes to estimated future cash flows is recognized in the provision for environmental reserve in the statement of income.

Environmental liabilities are difficult to assess for numerous reasons, including the discovery of new remedial sites, discovery of new information and scarcity of reliable information pertaining to certain sites, improvements in technology, changes in environmental laws and regulations, numerous possible remedial techniques and solutions, difficulty in assessing the involvement of and the financial capability of other potentially responsible parties (including insurers and other indemnities) and the extended time periods over which remediation occurs. As the environmental contingencies are more clearly determined, it is reasonably possible that amounts in excess of those amounts already accrued may be necessary and may be material.

Additionally, there is a state mandate to remediate ground soil at one operating site in the event this site is shut down. There are no plans to sell, shut down or otherwise dispose of this site. Therefore, there is an indeterminate settlement date for this potential obligation because the range of time over which it may settle is unknown. Accordingly, a reasonable estimate of the fair value of this potential obligation cannot be made and, as such, an accrual has not been made.

Contingencies

There may be legal or regulatory proceedings that arise in the ordinary course of business. Accruals are recorded for contingencies to the extent that their occurrence is probable and that the related liabilities are estimable. Anticipated recoveries under existing insurance contracts are only recorded when assured of recovery.

Many factors are considered in making these assessments, including the progress of the case, opinions or views of legal counsel, prior case law, historical experience or other companies in similar cases, and deemed intent on how to respond. Because litigation and other contingencies are inherently unpredictable and excessive verdicts do occur, these assessments can involve a series of complex judgments about future events and can rely heavily on estimates and assumptions. Legal costs are accrued in advance of when they are incurred when such costs are considered probable and estimable.

There is various litigation arising in the ordinary course of business, which include claims for compensation for civil responsibility for chemical products produced. Based on facts currently available and discussion with counsel, management is of the opinion that the disposition of these matters will not materially affect the results of operations, financial position or cash flows.

Revenue Recognition

Revenue is recognized when the earnings process is complete. This generally occurs when products are shipped to the customer in accordance with the terms of the agreement, title and risk of loss have been transferred, collectability is reasonably assured, and pricing is fixed or determinable.

The Predecessor Financial Statements included deferred revenue related to environmental abatement arrangements. In connection with the Acquisition, the Company concluded there was no remaining service requirements to be performed under these former environmental abatement arrangements. As such, no deferred revenue liability was recorded as part of the purchase price allocation included in the Successor Financial Statements.

Shipping and Handling Fees and Costs

Amounts billed to customers for shipping and handling fees are included in revenues. The related shipping and handling fees and costs incurred are included in cost of sales in the statements of operations.

Research and Development

Research and development costs are expensed as incurred and primarily include employee related costs, facility costs and certain outsourced research and development costs. There were no significant research and development costs incurred during the periods presented.

Advertising Costs

Advertising costs are expensed as incurred. There were no significant advertising costs incurred during the period presented.

Employee Benefits

In connection with the Acquisition, the Company assumed the liabilities related to employees who participate in defined benefit pension and other post-employment benefit plans (the “Plans”) previously sponsored by Solvay. These Plans are accounted for in accordance with accounting guidance for defined benefit pension and other post-employment plans, and the total cost of the Plans is determined annually by actuarial valuation. (Refer to Note 15 “Benefit plans”).

(All dollar amounts are in thousands)

Share-Based Payments

Successor

Holdings, the ultimate parent of the Company, granted a total of 25,786 Class B Units (the "Grant Units") to certain employees, directors and affiliates of the Company at an exercise price of $1 per Grant Unit. Of this amount, 14,419 and 11,367 Grant Units were granted on January 13, 2015 and December 31, 2014, respectively. 25,093 Grant Units were outstanding as of December 31, 2015.

Of this total, 10,674 Grant Units granted to employees have two vesting criteria, in which 50% are subject to time-based vesting criteria and 50% are subject to performance-based criteria. The time-based Grant Units vest in four equal annual installments on December 1, 2015, December 1, 2016, December 1, 2017, and December 1, 2018. 14,419 Grant Units to directors and affiliates are subject to time-based vesting criteria only, and vest in four equal annual installments on December 1, 2015, December 1, 2016, December 1, 2017, and December 1, 2018. All of the Grant Units and were valued using the Black-Scholes option pricing model, and the fair value of a Grant Unit was $0.448. The key assumptions used in valuing the Grant Units were as follows: expected life of seven years, expected volatility of 40.27%, risk-free interest rate of 2.02%, and 0.00% annual dividend yield. Activity of nonvested Class B Units granted is shown below, and the weighted average grant-date fair value of the Class B Units granted during 2015 was $0.448.

	Number of Shares	Weighted average grant date fair value (per share)
Nonvested awards, December 31, 2014	11,367	$0.448
Granted during year	14,419	$0.448
Forfeited during year	(693)	$ —
Vested during year	(6,447)	$ —
Nonvested awards, December 31, 2015	18,646	$0.448

For the year ended December 31, 2015 compensation expense of $2,256, was recorded for the Grant Units. There was no compensation expense recorded for the time-based Grant Units for the period from inception (July 30, 2014) to December 31, 2014 as such amount was not significant. Unrecognized compensation expense related to these time-based Grant Units was approximately $6,750 and is expected to be recognized over the next three years. The performance-based Grant Units only vest when specific liquidity events occur. As of December 31, 2015 and 2014, the performance-based criteria of the Grant Units was deemed not probable, thus no expense for the performance-based Grant Units has been recorded.

Predecessor

Historically, Solvay maintained various share-based compensation plans for employees during the historical period. Employees participated in these share-based payment plans. Upon the acquisition of Solvay's Eco Services business unit, all existing Solvay awards were terminated. Accordingly, no further compensation or termination expense was provided in the Successor Financial Statements.

In the Predecessor Financial Statements, this compensation expense was recognized on a straight-line basis in the statements of operations over the vesting periods relating to these awards. Share-based payment expense recognized for the period from January 1, 2014 to November 30, 2014, and the year ended December 31, 2013 was $535 and $681, respectively. For purposes of determining the fair value of stock option awards, Solvay used the Black-Scholes option pricing model.

Other Income

In 2013, $3,266 was recorded in other income related to reimbursement from a state government for eminent domain.

Income Taxes

Successor

The Company is as a single member limited liability company (LLC), treated as a partnership for federal and state income tax purposes. All income tax liabilities and/or benefits of the Company are passed through to the member. As such, no recognition of federal or state income taxes for the Company have been provided for in the Successor Financial Statements. Any uncertain tax position taken by the member is not an uncertain tax position of the Company.

Predecessor

For the Predecessor Financial Statements, a provision for income taxes was determined using the asset and liability approach. The income taxes have been prepared on a separate return basis as if Solvay's Eco Services business unit was a stand-alone entity. Historically, Solvay's Eco Services business unit was included in tax filings with other Solvay entities. The results from being included in the combined tax returns are included in Parent company investment. The tax results as presented are not reflective of the results that would result in the future or would have been generated on a stand-alone basis.

Predecessor Financial Statement deferred taxes represent the future tax consequences expected to occur when the reported amounts of assets and liabilities are recovered or paid. Deferred taxes are adjusted for enacted changes in tax rates and tax laws. Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not that a tax benefit will not be realized.

Fair value of financial instruments

ASC 820, *Fair Value Measurement*, defines fair value, and establishes a framework for measuring fair value in accordance with U.S. GAAP.

The standard establishes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into the following three broad categories:

- Level 1 inputs—Quoted prices for identical assets and liabilities in active markets.
- Level 2 inputs—Quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets that are not active, observable inputs other than quoted prices and inputs that are derived principally from or corroborated by other observable market data.
- Level 3 inputs—Unobservable inputs reflecting the entity's own assumptions about the assumptions market participants would use in pricing the asset or liability.

An analysis is performed of all existing financial assets and financial liabilities measured at fair value on a recurring basis to determine the significance and character of all inputs used to determine their fair value. Financial instruments, including accounts receivable, accounts payable and accrued liabilities, have net carrying values that approximate their fair values due to the short-term nature of these instruments.

(All dollar amounts are in thousands)

The estimated fair value of capital lease obligations, which fall in Level 3 of the fair value hierarchy, is based on estimated borrowing rates to discount the cash flows to their present value as provided by a broker, or otherwise, quoted, current market prices for same or similar issues. Based on the present value of the cash flows at estimated borrowing rates, the carrying value of the capital leases approximate their fair values.

4. Accumulated Other Comprehensive Income

The following table presents cumulative changes in accumulated other comprehensive income, as of December 31, 2015:

	December 31, 2015
Unrealized gains on pension plans	$648
	$648

The following table presents the components of other comprehensive income for the twelve months ended December 31, 2015:

	December 31, 2015
Unrealized gains on pension plans	$648
Other compreshensive income	$648

The following table presents the change in accumulated other comprehensive income by component for the twelve months ended December 31, 2015:

	Benefit plans	Total
December 31, 2014	$—	$—
Other comprehensive income	648	648
Net current period other comprehensive income	648	648
December 31, 2015	$648	$648

5. Acquisition

Asset Purchase Agreement

On July 30, 2014, the Company entered into the Acquisition with Solvay, which provided for the sale, transfer and assignment by Solvay, and the acquisition, acceptance and assumption by Eco Services, of substantially all of the assets of Solvay's Eco Services business unit, which will constitute the Eco Services business going forward. The Acquisition closed on December 1, 2014 (the "Closing Date").

The purchase price for Eco Services was $890,000 in cash, subject to adjustment for certain items, including the actual level of working capital at the closing of the Acquisition, and a defined contribution plan adjustment. The working capital and defined contribution plan adjustments to the purchase price resulted in a reduction to the purchase price by $8,525 to $881,475 and were settled with Solvay as of June 30, 2015. The cash purchase price paid for Eco Services was $885,440 at December 1, 2014. Acquisition costs of $14,666 are included in selling, general and administrative expense in the Successor financial statements.

The Acquisition and related transactions were funded with the proceeds of the following transactions:

Senior Secured Credit Facilities

Concurrently with the consummation of the Acquisition, the Company entered into the Senior Secured Credit Facilities, which includes a $500,000 seven year term loan facility, all of which was drawn on the Closing Date, and a $55,000 five year revolving credit facility. See Note 6, "Senior Secured Credit Facilities," for a more detailed description of the Senior Secured Credit Facilities.

Senior Notes

The Company issued $200,000 in aggregate principal amount of its Senior Notes. See Note 7, "Senior Notes", for a more detailed description of the senior unsecured notes issued.

Equity Investment

In connection with the Acquisition, affiliates of CCMP contributed $230,000 in cash and members of the Company's board of managers and management contributed $9,885 in cash. These funds were invested directly or indirectly in Holdings. Holdings contributed the proceeds to its wholly-owned subsidiary, Intermediate Holdings. Intermediate Holdings, in turn, contributed the proceeds to its wholly-owned subsidiary, the Company.

In order to apply the acquisition method of accounting, the purchase price was allocated to the net assets of Eco Services based on their estimated fair values as of the acquisition date. The excess of the purchase price over the fair values of these net assets was recorded as goodwill as indicated in the table below. Under ASU 2015-16, the Company has reported certain measurement period adjustments to previous provisional amounts in the balance sheet as of December 31, 2015.

(in thousands)	**Net assets acquired**
Accounts receivable	$ 26,160
Other receivables	19,389
Inventories	13,297
Prepaid expenses	377
Property, plant and equipment	471,367
Intangibles, excluding goodwill	148,190
Other long-term assets	1,624
Accounts payable	(20,908)
Other payables	(854)
Current portion of capital lease obligation	(236)
Accrued expenses	(8,710)
Accrued wages, salaries & employee benefits	(9,572)
Other current liabilities	(6,485)
Long-term portion of capital lease obligation	(1,185)
Environmental reserve	(4,783)
Supply contract obligation	(25,662)
Pension liability	(32,427)
Net assets acquired before goodwill on acquisition	569,582
Goodwill	311,892
Net assets acquired	**$881,475**

(All dollar amounts are in thousands)

The valuation of the intangible assets acquired and the related amortization periods are as follows:

	Valuation	Amortization period (years)
Customer contracts and relationships	$ 99,300	15
Developed technology	24,990	14
Tradename	14,800	Indefinite
Permits	9,100	5
Total	$148,190	

The fair values of the customer contracts and customer relationships were estimated using a multi-period excess earnings method, a form of the income approach. Under this method, an intangible asset's fair value is equal to the present value of the incremental after-tax cash flows (excess earnings) attributable solely to the intangible asset over its remaining useful life. To calculate fair value, management used probability-weighted cash flows discounted at rates considered appropriate given the inherent risks associated with this type of intangible asset. Management believes that the level and timing of cash flows appropriately reflect market participant assumptions. Cash flows were generally assumed to extend through the duration of customer contracts, including renewal periods as estimated by management.

The fair values of the developed technology and permits were estimated using the replacement cost method of the cost approach. For the developed technology, management derived estimated costs necessary to establish current technologies and procedures were considered, including employee cost and time necessary to develop the processes and procedures. For the permits, management estimated the necessary costs to obtain the applicable permits.

The fair value of the tradename was estimated using a form of the income approach known as the relief-from-royalty method. The basic tenet of the relief-from-royalty method is that without ownership of the subject intangible asset, the user of that intangible asset (i.e., Eco Services) would have to make a stream of royalty payments to the owner of the intangible asset in return for the rights to use that asset. By owning or acquiring the intangible asset, the user avoids these royalty payments. Thus, management derived the hypothetical royalty income from the projected revenues of the business, and discounted these streams of cash flows at rates considered appropriate given the inherent risks associated with the subject intangible assets.

6. Senior Secured Credit Facilities

Senior Secured Credit Facilities

Concurrently with the Acquisition, the Company entered into a credit agreement governing a $555,000 senior secured credit facility, which includes a $500,000 term loan facility and a $55,000 revolving credit facility, with Credit Suisse AG, Cayman Islands Branch, as administrative agent, and certain financial institutions as lenders (the "Senior Credit Agreement"). The full amount of the $500,000 term loan facility was drawn on the Closing Date to finance a portion of the Acquisition, including working capital and/or purchase price adjustments payable on the Closing Date and the payment of related fees, expenses and other costs of the transactions.

The term loan facility was issued at 99.5% of the principal amount, resulting in an original issue discount on the term loan facility of $2,500, with the discount reported in the balance sheet as a direct deduction to the face amount of the term loan. The accretion of the original issue discount is reported as interest expense, and is accreted under the effective interest method over the term of the loan. As of December 31, 2015, the outstanding balance on the term loan, net of unamortized original issue discount of $2,159 and unamortized debt issuance costs of $12,655, is $480,186.

Proceeds from the revolving credit facility may be used to finance the Company's working capital needs and other general corporate purposes, including investments, restricted payments and any other purpose not prohibited as defined in the Senior Credit Agreement. In 2015, the Company borrowed and repaid $12,000 under the revolving credit facility, resulting in no outstanding credit balance on the revolving credit facility as of December 31, 2015. There were no proceeds drawn from the revolving credit facility at December 31, 2014. The unamortized debt issuance costs of $1,585 and $1,853 as of December 31, 2015 and 2014, respectively, related to the revolving credit facility are presented as a noncurrent asset.

A portion of the revolving credit facility not to exceed $25,000 is also available for the issuance of letters of credit. As of December 31, 2015, the Company issued letters of credit totaling $13,270.

Interest Rate and Fees

Borrowings under the Senior Credit Agreement bear interest at a rate per annum equal to an applicable interest rate margin, plus, at the Company's option, either (a) a base rate determined by the reference to the highest of (1) the prime commercial lending rate publicly announced by the administrative agent as the "prime rate" as in effect on such day, (2) the federal funds effective rate plus 0.50%, and (3) the LIBOR rate determined by reference to the cost of funds for Eurodollar deposits for an interest period of one month, plus 1.00% or (b) a LIBOR rate determined by reference to the costs of funds for Eurodollar deposits for the specified interest period, as adjusted for certain statutory reserve requirements. As of December 31, 2015, the interest rate on the Senior Credit Agreement was 4.75%.

A commitment fee is charged on the average daily unused portion of the revolving credit facility of (a) 0.50% per annum if the senior secured net leverage ratio is greater than 3.75:1.00, (b) 0.375% if the senior secured net leverage ratio is less than or equal to 3.75:1.00 but greater than 3.25:1.00 and (c) 0.25% per annum if the senior secured net leverage ratio is less than or equal to 3.25:1.00. In addition, a fronting fee will be charged on the aggregate face amount of outstanding letters of credit equal to 0.125% per annum.

The Company recorded unused commitment fees and letter of credit fees totaling $656 for the year ended December 31, 2015. These fees are included as interest expense in the consolidated statements of operation.

Mandatory Prepayments

The Senior Credit Agreement requires the Company to prepay, subject to certain exceptions, outstanding term loans with: (1) 100% of net cash proceeds of any incurrence of debt, other than the net cash proceeds of the Senior Notes described in Note 7, "Senior Notes," and certain other debt permitted under the Senior Credit Agreement; (2) 100% of net cash proceeds above a threshold amount of certain asset sales, subject to reinvestment rights and certain other exceptions; and (3) 50% (subject to step-downs to 25% and 0% based upon senior secured net leverage ratio levels of 3.75:1.00 and 3.25:1.00, respectively) of the Company's annual excess cash flow.

The Senior Credit Agreement requires the Company to prepay outstanding loans and cash collateralize, "backstop" or replace outstanding letters of credit if at any time the aggregate amount of outstanding loans, unreimbursed letter of credit drawings and outstanding letters of credit under the Senior Credit Agreement exceeds the aggregate amount of revolving commitments then in effect, in an aggregate amount equal to such excess.

(All dollar amounts are in thousands)

Voluntary Repayment

The Company may voluntarily reduce the unutilized portion of the commitment amount and repay outstanding loans under the Senior Credit Agreement at any time without premium or penalty other than (a) customary "breakage" costs with respect to LIBOR borrowings and (b) in the case of the New Term Loan Facility, a 1.00% call protection premium applicable to certain "repricing transactions" occurring on or prior to the date that is six months after the Closing Date.

Amortization and Final Maturity

All outstanding revolving loans under the Senior Credit Agreement are due and payable in full upon the expiration of its seven-year term. In the case of the term loans, the Company is required to make scheduled quarterly payments equal to 0.25% of the original principal amount of the term loans made on the Closing Date, or $1,250, with the balance due on the seventh anniversary of the Closing Date of December 1, 2021. Accordingly, $5,000 of principal payments have been made as of December 31, 2015.

Maturities under the Senior Credit Agreement are as follows:

	Total	2016	2017	2018	2019	2020	Thereafter
Senior Secured Credit Facilities	$495,000	$5,000	$5,000	$5,000	$5,000	$5,000	$470,000

General

Under the Senior Credit Agreement, the Company may request increases to the term loan facility and/or revolving credit facility and/or add one or more incremental revolving facilities or term loan facilities in an aggregate principal amount not to exceed (w) $125,000, plus (x) in the case of any incremental facilities that serve to effectively extend the maturity of the term loan facility and/or revolving credit facility, an amount equal to the reductions in the term loan facility and/or revolving credit facility to be replaced thereby, plus (y) the amount of certain voluntary prepayment of the term loans under the term loan facility and/or any incremental term facility and/or any permanent reduction of the commitments under the revolving credit facility and/or any incremental revolving facility, plus (z) an unlimited amount so long as (1) if such indebtedness is secured on a pari passu basis with the Senior Credit Agreement, the Company is in compliance on a pro forma basis with a senior secured net leverage ratio of no greater than 4.50:1.00, (2) if such indebtedness is secured by a lien that is junior to the lien securing the Senior Credit Agreement, the Company is in compliance on a pro forma basis with a secured net leverage ratio of no greater than 4.75:1.00 and (3) if such indebtedness is unsecured, the Company is in compliance on a pro forma basis with a total net leverage ratio of 6.50:1.00. The existing lenders under the Senior Credit Agreement will not be under any obligation to provide such additional commitments.

Guarantees and Security

All obligations under the Senior Credit Agreement are unconditionally guaranteed by Holdings and certain of the Company's existing and future direct and indirect wholly-owned domestic subsidiaries. All obligations under the Senior Credit Agreement, and the guarantees of those obligations, are secured, subject to certain exceptions, by substantially all of the Company's assets and the assets of the guarantors, including: (1) a first-priority pledge of all of the Company's capital stock directly held by Holdings and a first priority pledge of all of the capital stock directly held by the Company and its subsidiary guarantors (which pledge, in the case of the capital stock of any first-tier foreign subsidiary or any "disregarded" domestic subsidiary, will be limited to 65% of the stock of such subsidiary); and (2) a first-priority security interest in substantially all of the Company's and the guarantors' tangible and intangible assets.

Certain Covenants and Events of Default

The Senior Credit Agreement contains a number of restrictive covenants that, among other things and subject to certain exceptions, will restrict our ability and the ability of any subsidiaries to: incur additional indebtedness, pay dividends on the Company's capital stock or redeem, repurchase or retire the Company's capital stock, make investments, acquisitions, loans and advances, create negative pledge or restrictions on the payment of dividends or payment of other amounts owed to us from any subsidiaries, engage in transactions with the Company's affiliates, sell, transfer or otherwise dispose of Company assets, including capital stock of its subsidiaries, materially alter the business conducted by Eco Services, modify certain material documents, change the Company's fiscal year, consolidate, merge, liquidate or dissolve, incur liens, and make prepayments of subordinated or junior debt or the Senior Notes described in Note 7, "Senior Notes."

Holdings shall also be subject to a "passive holding company" covenant under the Senior Credit Agreement. In addition, if on the last day of any fiscal quarter the total amount of outstanding revolving loans and letters of credit (other than (x) letters of credit that have been cash collateralized or otherwise backstopped and (y) letters of credit issued to support obligations in respect of existing financial assurances in an amount to be provided in the Senior Credit Agreement) is in excess of 35% of the total revolving commitments at that time, the Company will be subject to a senior secured net leverage ratio test of 6.40:1.00.

The Senior Credit Agreement also contains certain customary representations and warranties, affirmative covenants and reporting obligations. In addition, the lenders under the Senior Credit Agreement will be permitted to accelerate the loans and terminate commitments thereunder or exercise other specified remedies available to secured creditors upon the occurrence of certain events of default, subject to certain grace periods and exceptions, which will include, among others, payment defaults, breaches of representations and warranties, covenant defaults, cross-defaults to certain material indebtedness, certain events of bankruptcy, certain events under the Employee Retirement Income Security Act of 1974, as amended, material judgments and changes of control.

As of December 31, 2015, the Company was in compliance with all Senior Credit Agreement covenant requirements.

The fair value of a financial instrument is the amount at which the instrument could be exchanged in a current transaction. As of December 31, 2015, the fair value of the term loan was lower than book value by $12,375. There was no significant difference between book value and fair value as of December 31, 2014, as the term loan facility was issued on December 1, 2014. The fair value is classified as Level 1 based upon the fair value hierarchy and is determined using unadjusted quoted prices in active markets for identical liabilities.

(All dollar amounts are in thousands)

7. Senior Notes

General

The Company issued $200,000 aggregate principal amount of 8.500% Senior Notes due 2022 under an indenture dated October 24, 2014 between the Company and Wilmington Trust, National Association, as trustee. The Notes were issued in a private transaction that is not subject to the registration requirements of the Securities Act.

Interest on the Senior Notes accrues at the rate of 8.500% per annum, payable in cash semi-annually in arrears on each May 1 and November 1, commencing on May 1, 2015. The Company will make each interest payment to the holders of record of the Senior Notes at the close of business on the immediately preceding April 15 and October 15. Interest on the Senior Notes will accrue from the most recent date to which interest has been paid with respect to the Senior Notes, or if no interest has been paid with respect to such Notes, from the date of original issuance thereof. Interest will be computed on the basis of a 360-day year comprised of twelve 30-day months. The Notes mature on November 1, 2022.

The Senior Notes were issued at 100% of the principal amount. As of December 31, 2015, the outstanding balance on the Senior Notes, net of unamortized debt issuance costs of $7,085, is $192,915.

The Senior Notes are unsecured senior obligations of the Company, *pari passu* in right of payment to all existing and future senior indebtedness (including the Senior Credit Agreement) of the Company, and effectively subordinated to all secured indebtedness of the Company (including the Senior Credit Agreements) to the extent of the value of the assets securing such senior indebtedness. The Senior Notes are senior in right of payment to all subordinated indebtedness of the Company. As of December 31, 2015, the Company was in compliance with all Senior Note covenant requirements.

Redemption

The Company is not required to make any mandatory redemption or sinking fund payments with respect to the Senior Notes. However, under certain circumstances, the Company may be required under the Indenture to offer to purchase Senior Notes if it undergoes a change in control or a sale of assets.

At any time prior to November 1, 2017, the Company may redeem all or a part of the Senior Notes, at its option, at any time or from time to time, at a redemption price equal to 100% of the principal amount of the Senior Notes redeemed plus an “applicable make-whole premium” as of, and accrued and unpaid interest, if any, to, but not including, the date of redemption.

On and after November 1, 2017, the Company may redeem the Notes, at its option, in whole at any time or in part from time to time, at the redemption prices (expressed as percentages of principal amount of the Notes to be redeemed) set forth below, plus accrued and unpaid interest thereon, beginning on November 1 of each of the years indicated below:

Year	Percentage
2017	104.250%
2018	102.125%
2019 and thereafter	100.000%

In addition, until November 1, 2017, the Company may, at its option, on one or more occasions redeem up to 40% of the aggregate principal amount of Senior Notes at a redemption price equal to 108.500% of the aggregate principal amount thereof, plus accrued and unpaid interest thereon, if any, with the net cash proceeds of certain equity offerings; provided that at least 50% of the sum of the aggregate principal amount of Senior Notes originally issued under the Indenture remains outstanding immediately after the occurrence of each such redemption.

(All dollar amounts are in thousands)

The fair value of a financial instrument is the amount at which the instrument could be exchanged in a current transaction. As of December 31, 2015, the fair value of the Senior Notes was lower than book value by $30,000. There was no significant difference between book value and fair value as of December 31, 2014, as the Senior Notes were issued on December 1, 2014. The fair value is classified as Level 1 based upon the fair value hierarchy and is determined using unadjusted quoted prices in active markets for identical liabilities.

8. Inventories

Inventories consist of the following:

	December 31, 2015	December 31, 2014
Raw materials	$ 1,359	$1,617
Finished goods	8,820	7,201
Inventories	**$10,179**	**$8,818**

9. Property, Plant and Equipment, net

Property, plant and equipment, at cost, consist of the following:

	December 31, 2015	December 31, 2014
Land and land improvements	$108,197	$107,993
Buildings and improvements	11,083	10,186
Machinery and equipment	357,351	325,885
Computer hardware and software	3,679	1,573
Construction in progress	29,834	28,622
Property, plant and equipment, gross	510,144	474,259
Less: Accumulated depreciation	(25,187)	(2,103)
Property, plant and equipment, net	**$484,957**	**$472,156**

Property, plant and equipment purchases included in accounts payable totaled $887 and $2,099 as of December 31, 2015 and 2014, respectively. Depreciation expense for the year ended December 31, 2015, for the period from inception (July 30, 2014) to December 31, 2014, the period January 1, 2014 to November 30, 2014, and the year ended December 31, 2013 was $25,159, $2,103, $33,171 and $33,265, respectively.

ECO SERVICES OPERATIONS LLC (A WHOLLY-OWNED SUBSIDIARY OF ECO SERVICES INTERMEDIATE HOLDINGS LLC)
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(All dollar amounts are in thousands)

10. Intangible assets, net

Intangible assets consist of the following:

	December 31, 2015	December 31, 2014
Indefinite lived intangibles:		
Tradename	$ 14,800	$ 14,800
Total indefinite lived intangibles	14,800	14,800
Definite lived intangibles:		
Customer contracts and relationships	99,300	99,300
Less: Accumulated amortization	(7,176)	(552)
Customer contracts and relationships, net	92,124	98,748
Developed technology	24,990	24,990
Less: Accumulated amortization	(1,935)	(142)
Developed technology, net	23,055	24,848
Permits and other	9,271	9,115
Less: Accumulated amortization	(1,966)	(158)
Permits and other, net	7,305	8,957
Total definite lived intangibles, net	122,484	132,553
Total intangibles, net	**$137,284**	**$147,353**

Amortization expense for intangible assets totaled $10,210, $852, $9,287 and $10,230 for the year ended December 31, 2015, for the period from inception (July 30, 2014) to December 31, 2014, the period January 1, 2014 to November 30, 2014, and the year ended December 31, 2013, respectively. Amortization expense for amortizable intangible assets over the next five years and thereafter is estimated to be:

Year Ending	Amortization
2016	$ 11,077
2017	11,077
2018	11,077
2019	11,077
2020	8,552
Thereafter	69,624
	$122,484

11. Accrued wages, salaries and employee benefits

	December 31, 2015	December 31, 2014
Salaries and payroll taxes	$ 4,123	$ 6,889
Employee bonuses	5,447	4,565
Vacation	2,030	2,064
Other employee benefits	467	2,098
Total	**$12,067**	**$15,616**

(All dollar amounts are in thousands)

The Company has accrued severance of approximately $1,293 as of December 31, 2015, for the payment of future postemployment benefits in accordance with its approved plan of termination, related to exiting its former headquarters in Cranbury, New Jersey and relocation to Houston, Texas.

12. Other current liabilities

	December 31, 2015	December 31, 2014
Property taxes	$2,106	$2,407
Environmental reserve	1,857	328
Supply contract obligation	1,638	1,638
Other	2,841	2,405
Total	**$8,442**	**$6,778**

See Note 19, "Long-term supply contract," for further discussion of the supply contract obligation.

13. Related party transactions

LLC Operating Agreement

On the Closing Date, Holdings entered into an LLC Operating Agreement. The LLC Operating Agreement contained provisions relating to the election of members to the board of managers, governance, stock transfer restrictions with respect to stock held by non-CCMP stockholders, customary drag-along rights in favor of CCMP and customary tag-along rights, preemptive rights and registration rights.

Advisory Services and Monitoring Agreement

Concurrently with the consummation of the Acquisition, the Company entered into an advisory services and monitoring agreement with CCMP, pursuant to which CCMP will provide certain advisory services to the Company. Pursuant to the advisory services and monitoring agreement, CCMP and certain members of the Company's management and board of managers were paid a one-time fee on the Closing Date of $8,000 related to the Acquisition, Senior Secured Credit Facilities and Senior Note transactions, and CCMP will receive (i) an annual advisory fee of $500 and (ii) reimbursement for reasonable out-of-pocket expenses incurred in connection with the provision of services, including the reasonable fees and disbursements of legal counsel and other advisors retained by CCMP and travel and reasonable out-of-pocket expenses of each director appointed by CCMP to the Company's board of managers or the board of directors of its affiliates, and of any other representative of CCMP in connection with their provision of such services. The advisory services and monitoring agreement also provides for customary exculpation, indemnification and confidentiality provisions. The one-time management fee was recorded by the Company as an increase to selling, general, and administrative expenses.

Effective January 1, 2015, the Company entered into a service agreement with an affiliate of CCMP (the "Services Agreement") for the provision of services historically provided by Solvay. The services include product information and operations support, manufacturing support, electronic data processing and systems support, employee relations, and financial services. The Company recorded $1,616 for these services and reimbursable expenses provided under the Service Agreement, which was recorded in selling, general and administrative expenses for the year ended December 31, 2015.

Pursuant to the advisory services and monitoring agreement, the Company agreed to pay certain investors a one-time fee of $1,600 for services provided related to the Acquisition. On January 13, 2015, pursuant to a payment direction and subscription agreement, in lieu of the Company paying this fee, these investors agreed to contribute the $1,600 transaction fee to the capital of Holdings. Holdings contributed this fee to Intermediate Holdings. Intermediate Holdings in turn contributed this transaction fee to the Company, increasing the Company's member's equity by $1,600.

Transactions with management and board of managers

For the year ended December 31, 2015, certain members of the Company's board of managers and management contributed $1,538 in cash, which was invested directly into Holdings. Holdings contributed these proceeds to Intermediate Holdings. Intermediate Holdings in turn contributed the proceeds to the Company, increasing the Company's member's equity by $1,538.

14. Relationship with Solvay

Successor Financial Statements

Transition Services Agreement

Concurrently with the consummation of the Acquisition, the Company entered into a transition services agreement with Solvay (the "Transition Services Agreement"), which provides certain transition services by Solvay to the Company and from the Company to Solvay. The services from Solvay include the provision of information technology services, certain workspace related services, cost accounting services and consulting services, among others. The Transition Services Agreement provides for a term of three months to one year from the Closing Date for the provision of services thereunder, depending upon the service to be provided. The term for any service to be provided pursuant to the Transition Services Agreement may be extended or shortened upon the mutual written agreement between the Company and Solvay. Additionally, the Company may generally terminate services upon 30 days' written notice without penalty. The Company recorded $4,882 and $462 of fees for the transaction services provided pursuant to the Transition Services Agreement in selling, general and administrative expenses for the year ended December 31, 2015 and for the period from inception (July 30, 2014) to December 31, 2014, respectively.

Cross-Services Agreement

In connection with the Acquisition, the Company entered into a Cross-Services Agreement (the "CSA") with Aroma Performance, a Solvay business unit ("Aroma"), on July 28, 2014. The CSA pertains to Eco Services' Baton Rouge, LA site. In connection with the CSA, the Company has agreed to continue to provide certain services that it has historically provided to Aroma when it operated as a component of Solvay, including its well water and process steam requirements, for an initial term of five years. Further, the Company has also agreed to provide Aroma with the use of space, operating machinery, and handling of chemicals on the site. Aroma has agreed to provide the Company with nitrogen for a period of twelve months at a price equal to pass-through supplier costs as well as electricity and certain emergency response services.

Under the CSA, Eco Services sells product to Aroma on an ongoing basis. Sales under the CSA totaled $1,272 and $124 for the year ended December 31, 2015 and for the period from December 1 to December 31, 2014, respectively. Eco Services also provides hazardous waste removal services to Aroma under the CSA. For the year ended December 31, 2015, these sales totaled $1,544 and for the period December 1, 2014 to December 31, 2014, these sales totaled $23.

Eco Services incurs certain shared costs, such as electricity, steam, other utility costs and plant administration costs, all of which are charged to Aroma primarily based on direct usage. Eco Services charged out $3,745 and $407 for such expenses, for the year ended December 31, 2015 and the period December 1, 2014 to December 31, 2014, respectively.

Silica Sales Agreement

In connection with the Acquisition, the Company entered into an agreement (the "Silica Sales Agreement") with Solvay's Silica business unit ("Silica") pursuant to which the Company has agreed to provide Silica with sulfuric acid produced at its Hammond, IN plant for a term of five years, renewing automatically for one year terms thereafter. The Company historically provided sulfuric acid to Silica when it operated as a component of Solvay, and continues to sell product to Solvay under the Silica Sales Agreement on an ongoing basis. For the year ended December 31, 2015, and the period December 1, 2014 to December 31, 2014, these sales totaled $1,983 and $145, respectively.

Other transactions with Solvay

Included in other receivables as of December 31, 2014 was $8,420 due Eco Services from Solvay. Of this amount, $4,455 was cash received by Solvay between the Closing Date and December 31, 2014, related to trade accounts receivable acquired by Eco Services. The remaining balance of $3,965 represents the balance due from Solvay for the final settlement of the working capital adjustment for the Acquisition. This amount was paid by Solvay in April 2015.

Included in other payables as of December 31, 2014, was $8,078 due to Solvay from Eco Services. This payable is for payments made by Solvay between the Closing Date and December 31, 2014, related to trade accounts payable assumed by Eco Services, certain transfer taxes paid by Solvay on behalf of Eco Services and settlement of defined contribution plan adjustments. This amount was settled and paid by Eco Services as of June 30, 2015.

Predecessor Financial Statements

Allocation of general corporate and other expenses

The Predecessor Financial Statements include expense allocations for certain functions provided by Solvay and Solvay SA including, but not limited to, finance, legal, information technology, human resources and regulatory. These expenses have been allocated to Solvay's Eco Services business unit on the basis of direct usage when identifiable, with the remainder allocated on the basis of revenue or headcount. For the period from January 1, 2014 to November 30, 2014, and the year ended December 31, 2013, Solvay's Eco Services business unit was allocated $12,942 and $16,583, respectively, with such amounts included in selling, general and administrative expenses within the statements of operations.

In addition, the Predecessor Financial Statements include expense allocations from Solvay for employee benefit costs, including payroll taxes, group medical, dental and life insurance, post-employment and other benefits. These costs have been allocated on the basis of total salary expense. For the period from January 1, 2014 to November 30, 2014, and the year ended December 31, 2013, Solvay's Eco Services business unit was allocated $14,062 and $15,989, respectively, of employee benefit costs incurred by Solvay. For the period from January 1, 2014 to November 30, 2014, and the year ended December 31, 2013, Solvay's Eco Services business unit was allocated $565 and $570 of rent expense for shared facilities on the basis of sales.

The expense allocations have been determined on a basis that management considers to be a reasonable reflection of the utilization of services provided or the benefit received by Solvay's Eco Services business unit during the periods presented. The allocations may not, however, reflect the expense Solvay's Eco Services business unit would have incurred as an independent company for the periods presented. Actual costs that may have been incurred if Solvay's Eco Services business unit had been a stand-alone company would depend on a number of factors, including the chosen organization structure, which functions were outsourced or performed by employees and strategic decisions made in areas such as information technology and infrastructure.

Related party transactions

Solvay's Eco Services business unit sold product to two other Solvay business units, with revenue recorded equivalent to cost incurred. These sales totaled $1,541 and $1,651, for the period from January 1, 2014 to November 30, 2014, and for the year ended December 31, 2013, respectively. Solvay's Eco Services business unit also provided hazardous waste removal services to one of these other Solvay business units at cost. Such sales totaled $754 and $917 for the period from January 1, 2014 to November 30, 2014, and for the year ended December 31, 2013.

Solvay's Eco Services business unit also operated a facility that is shared with another Solvay business unit. Solvay's Eco Services business unit incurs certain shared costs, such as electricity, steam, other utility costs and plant administration costs, all of which are charged to this other business unit primarily based on direct usage. Solvay's Eco Services business unit charged out $5,799 and $5,822 for such expenses, for the period from January 1, 2014 to November 30, 2014, and the year ended December 31, 2013, respectively, with such amounts included as a reduction to cost of sales in the statements of operations.

Parent company investment

Under the Predecessor Financial Statement presentation, which lacks an independent capital structure, it is not meaningful to show share capital or retained earnings for Solvay's Eco Services business unit. The net assets are represented by the cumulative investment in Solvay's Eco Services business unit by Solvay which is shown as Parent company investment comprised of the accumulated earnings of Solvay's Eco Services business unit and net transfers to/from the Parent.

All significant intercompany transactions between Solvay's Eco Services business unit and Solvay have been included in the Predecessor Financial Statements and are considered to be effectively settled for cash at the time the transaction is recorded. The total net effect of the settlement of these intercompany transactions is reflected in the statements of cash flows as a financing activity as Parent company investment. Net transfers to/from Solvay are deemed borrowings and repayments to Solvay associated with Solvay's centralized treasury function (for which bifurcation between gross borrowings and gross repayments is not practical). Accordingly, such activity is deemed a net financing activity for cash flow presentation purposes.

15. Benefit plans

In connection with the Acquisition, the Company assumed the liabilities related to employees who participate in defined benefit plans previously sponsored by Solvay. These defined benefit plans include the Eco Services Hourly Pension Plan ("Hourly Plan"), Eco Services Pension Equity Plan ("PEP Plan"), and Eco Services Postretirement Life and Dental Plan ("PRM Plan"), (collectively, the "Plans").

(All dollar amounts are in thousands)

In accordance with the Asset Purchase Agreement, during 2015 the Company and Solvay completed its review and concurred on of the calculation of the final accumulated benefit obligation ("ABO"). Solvay paid the required difference between the trust-to-trust plan asset transfer, and the final ABO of $14,936, through the transfer of additional funds from its general assets to the Company's general assets outside of the Plans. The Company then transferred to the Company's plan trusts an aggregate of $14,936 to settle its estimated liability for the Plans.

The following tables summarize changes in the benefit obligation, the plan assets and the funded status of our significant benefit plans as well as the components of net periodic benefit costs, including key assumptions as of and for the year ended December 31, 2015, and as of December 31, 2014 and for the period from December 1 to December 31, 2014:

	Hourly Pension Plan		Pension Equity Plan		Postretirement Life and Dental Plan	
	2015	2014	2015	2014	2015	2014
Change in projected benefit obligation						
Benefit obligation—beginning of period	$ 37,821	$ 37,571	$36,227	$ 36,007	$ 1,327	$ 1,319
Service cost	1,490	120	1,288	104	39	3
Interest cost	1,585	130	1,328	116	57	5
Plan settlements	—	—	(5,099)	—	—	—
Benefits paid	(75)	—	(33)	—	—	—
Actuarial (gains) losses	(1,754)	—	(1,173)	—	(127)	—
Benefit obligation—end of period	$ 39,067	$ 37,821	$32,538	$ 36,227	$ 1,296	$ 1,327
Change in plan assets						
Fair value of plan assets—beginning of period	$ 18,972	$ 18,972	$23,497	$ 23,497	$ —	$ —
Actual return on plan assets	179	—	300	—	—	—
Employers contributions	8,929	—	6,008	—	—	—
Plan settlements	—	—	(5,099)	—	—	—
Benefits paid	(75)	—	(33)	—	—	—
Fair value of plan assets—end of period	$ 28,005	$ 18,972	$24,673	$ 23,497	$ —	$ —
Funded status at end of year	$(11,062)	$(18,849)	$ (7,865)	$(12,730)	$(1,296)	$(1,327)

Amounts recognized in the consolidated balance sheets consist of:

	Hourly Pension Plan		Pension Equity Plan		Postretirement Life and Dental Plan	
	2015	2014	2015	2014	2015	2014
Current liabilities	$ —	$ —	$ —	$ —	$ (29)	$ (18)
Noncurrent liabilities	(11,062)	(18,849)	(7,865)	(12,730)	(1,267)	(1,309)
Accumulated other comprehensive income	506	—	14	—	127	—
Net amount recognized	$(10,556)	$(18,849)	$(7,851)	$(12,730)	$(1,169)	$(1,327)

(All dollar amounts are in thousands)

Amounts recognized in accumulated other comprehensive loss consist of:

	Hourly Pension Plan		Pension Equity Plan		Postretirement Life and Dental Plan	
	2015	2014	2015	2014	2015	2014
Prior service credit (cost)	$—	$—	$—	$—	$—	$—
Net gain (loss)	506	—	14	—	127	—
Net amount recognized	$506	$—	$ 14	$—	$127	$—

Components of net periodic benefit cost consist of:

	Hourly Pension Plan		Pension Equity Plan		Postretirement Life and Dental Plan	
	2015	2014	2015	2014	2015	2014
Service cost	$ 1,490	$120	$ 1,288	$104	$ 39	$ 3
Interest cost	1,585	130	1,328	116	57	5
Expected return on plan assets	(1,427)	—	(1,458)	—	—	—
Settlement (gain) loss recognized	—	—	(2)	—	—	—
Net periodic pension cost	$ 1,648	$250	$ 1,156	$220	$ 96	$ 8

In regards to the Predecessor Financial Statements, Solvay's Eco Services business unit received an allocation of the service cost, interest cost and expected return on plan assets of the Plans based on a combination of salaries and headcount. The amount of net pension and other post-retirement benefit expense allocated to Solvay's Eco Services business unit related to these multiemployer plans was $1,790 and $1,517 for the period January 1, 2014 to November 30, 2014, and for the year ended December 31, 2013, respectively.

The estimated net actuarial loss (gain) for the pension plans that will be amortized from accumulated other comprehensive income into benefit cost in 2016 is $0 in the Company's Plans.

The total ABO as of December 31, 2015 for the Hourly Plan was $35,522. The total ABO as of December 31, 2015 for the PEP Plan was $31,184. The ABO for 2014 was not available until 2015.

The following table presents selected information about the Company's pension plans with accumulated benefit obligations in excess of plan assets:

	Hourly Pension Plan		Pension Equity Plan	
	2015	2014	2015	2014
Projected benefit obligation	$39,067	$37,821	$32,538	$36,227
Accumulated benefit obligation	35,522	N/A	31,184	N/A
Fair value of plan assets	28,005	18,972	24,673	23,497

(All dollar amounts are in thousands)

Significant weighted average assumptions used in determining the pension obligations include the following:

	Hourly Pension Plan		Pension Equity Plan		Postretirement Life and Dental Plan	
	2015	2014	2015	2014	2015	2014
Discount rate	4.60%	4.22%	4.40%	3.95%	4.80%	4.36%
Rate of compensation increase	3.00%	3.00%	Age-based	Age-based	Age-based / 3.0%	Age-based / 3.0%

Significant weighted average assumptions used in determining net periodic benefit cost include the following:

	Hourly Pension Plan		Pension Equity Plan		Postretirement Life and Dental Plan	
	2015	2014	2015	2014	2015	2014
Discount rate	4.22%	4.22%	3.95%	3.95%	4.36%	4.36%
Rate of compensation increase	3.00%	3.00%	Age-based	Age-based	Age-based / 3.0%	Age-based / 3.0%
Expected return on assets	6.00%	None Assumed	6.00%	None Assumed	N/A	N/A

The Company periodically reviews its asset allocation, taking into consideration plan liabilities, U.S. regulatory requirements, plan payment streams and then-current capital market assumptions. The actual asset allocation for each plan is monitored at least quarterly, relative to the established policy targets and ranges. If the actual asset allocation is close to or out of any of the ranges, a review is conducted. Rebalancing will occur toward the target allocation, with due consideration given to the liquidity of the investments and transaction costs.

The objectives of the Company's investment strategies are as follows. All Plans' assets are to be held and invested for the exclusive benefit of plan participants and their beneficiaries. The Company's goal is to provide a secure trust fund from which retirement benefits can be paid to employees, as described in the plans, and consistent with prudent management. To meet these requirements, Company contributions to the defined-benefit trust fund are invested with the primary objective of achieving a minimum annualized total return meeting or exceeding the Plans' current actuarial return assumption. The objectives are accomplished through an investment strategy that includes both domestic and international equities along with fixed-income investments in a mix, which is conducive to participation in rising markets while allowing for protection in falling markets. The target asset allocation of the Hourly Plan assets is 52.40% in fixed income funds, 47.53% in equities, and 0.07% in cash. The target asset allocation of the PEP Plan assets is 44.20% in fixed income funds, 55.72% in equities, and 0.08% in cash.

The Company categorized Plans' assets into a fair value hierarchy. The hierarchy consists of three levels as follows:

- Level 1—Values are unadjusted quoted prices for identical assets and liabilities in active markets accessible at the measurement date. Active markets provide pricing data for trades occurring at least weekly and include exchanges and dealer markets. Level 1 assets primarily include investments in publicly traded equity securities and mutual funds. These securities (or the underlying investments of the funds) are actively traded and valued using quoted prices for identical securities from the market exchanges.

(All dollar amounts are in thousands)

- Level 2—Inputs include quoted prices for similar assets or liabilities in active markets, quoted prices from those willing to trade in markets that are not active, or other inputs that are observable or can be corroborated by market data for the term of the instrument. Such inputs include market interest rates and volatilities, spreads and yield curves. Level 2 assets primarily consist of fixed-income securities and comingled funds that are not actively traded or whose underlying investments are valued using observable marketplace inputs. The fair value of plan assets invested in fixed-income securities is generally determined using valuation models that use observable inputs such as interest rates, bond yields, low-volume market quotes and quoted prices for similar assets. Plan assets that are invested in comingled funds are valued using a unit price or net asset value ("NAV") that is based on the underlying investments of the fund.

- Level 3—Certain inputs are unobservable (supported by little or no market activity) and significant to the fair value measurement. Unobservable inputs reflect the Company's best estimate of what hypothetical market participants would use to determine a transaction price for the asset or liability at the reporting date. Level 3 assets include investments covered by insurance policies and real estate funds valued using significant un-observable inputs.

	Fair value measurements at December 31, 2015			
	Total	Level 1	Level 2	Level 3
Cash and cash equivalents	$ 40	$ 40	$ —	$—
Equity securities:				
U.S. investment funds	20,395	—	20,395	—
International investment funds	8,027	—	8,027	—
Fixed income securities:	—	—	—	—
Government securities	13,214	—	13,214	—
Corporate bonds	11,002	—	11,002	—
Total	$52,678	$ 40	$52,638	$—

In 2016, the Company expects to make aggregate cash contributions of $1,000 to the Hourly Plan and $29 to the PEP Plan.

The following benefit payments, which reflect expected future service, as appropriate, are expected to be paid:

Year	Hourly Pension Plan	Pension Equity Plan	Postretirement Life and Dental Plan
2016	$ 828	$4,894	$ 29
2017	1,121	3,369	38
2018	1,390	2,658	42
2019	1,613	2,199	45
2020	1,763	2,225	49
Years 2021-2025	11,012	8,510	243

In addition, certain employees participate in defined contribution plans. The defined contribution plans allow eligible employees to contribute a portion of their salary to the plans, and in some cases, a matching contribution to the funds is provided. Defined contribution plan expense was $1,511, $85, $1,848, and $1,956 for the year ended December 31, 2015, for the period from inception (July 30, 2014) to December 31, 2014, for the period January 1, 2014 to November 30, 2014, and for the year ended December 31, 2013.

16. Concentrations of credit risk

Concentration of credit risk relates to trade receivables which arise in the normal course of business. Management performs regular credit evaluations of its customers.

Sales to one customer represented 13%, 10%, 12% and 13%, of total sales for the year ended December 31, 2015, the period from inception (July 30, 2014) to December 31, 2014, the period January 1, 2014 to November 30, 2014, and the year ended December 31, 2013, respectively. Sales to a second customer represented 10%, 10%,11% and 11% of total sales for the year ended December 31, 2015, the period from inception (July 30, 2014) to December 31, 2014, the period January 1, 2014 to November 30, 2014, and the year ended December 31, 2013, respectively. Sales to a third customer represented 10% of total sales for the year ended December 31, 2015.

Trade receivables to one customer represented approximately 13% and 11% of total trade receivables at December 31, 2015 and 2014, respectively. Trade receivables to a second customer represented approximately 14% of total trade receivables at December 31, 2015. The Company does not believe these concentrations present a significant credit risk.

17. Income Taxes

The Company is as a single member limited liability company (LLC), treated as a partnership for federal and state income tax purposes. All income tax liabilities and/or benefits of the Company are passed through to the member. As such, no recognition of federal or state income taxes for the Company have been provided for in the Successor Financial Statements.

For the Predecessor Financial Statements, income taxes have been prepared on a separate return basis as if Solvay's Eco Services business unit was a stand-alone entity. Historically, Solvay's Eco Services business unit was included in the tax filings with other Solvay entities. Tax results as presented are not reflective of the results that Solvay's Eco Services business unit will generate in the future or would have generated on a stand-alone basis.

Pre-tax income for Solvay's Eco Services business unit was as follows:

	Predecessor	
(in thousands)	Period from January 1, 2014 to November 30, 2014	Year ended December 31, 2013
U.S.	$45,147	$60,736
Total pre-tax (loss) income	$45,147	$60,736

The components of the provision for income taxes were:

(in thousands)	Predecessor Period from January 1, 2014 to November 30, 2014	Predecessor Year ended December 31, 2013
Current tax expense (benefit):		
U.S. federal	$ 22,215	$19,665
U.S. state and local	2,651	2,954
Total current tax expense	24,866	22,619
Deferred tax expense (benefit):		
U.S. federal	(9,065)	(1,531)
U.S. state and local	(1,199)	357
Total deferred tax expense	(10,264)	(1,174)
Total provision for income taxes	$ 14,602	$21,445

An analysis of the effective income tax rate follows:

(in thousands)	Predecessor Period from January 1, 2014 to November 30, 2014		Predecessor Year ended December 31, 2013	
Statutory U.S. federal income tax rate	$15,801	35.00%	$21,258	35.00%
Meals & entertainment (50%)	55	0.12%	60	0.10%
Domestic production deduction	(2,197)	-4.81%	(1,978)	-3.26%
State taxes—current	1,723	3.77%	1,920	3.16%
State taxes—deferred	(780)	-1.68%	232	0.38%
Other	—	0.00%	(47)	-0.08%
Provision for income taxes	$14,602	32.40%	$21,445	35.30%

18. Commitments and Contingencies:

Leases

Operating Leases

Certain facilities, railcars and machinery and equipment are leased through operating leases. Total rental expense for operating leases was $6,096, $471, $5,647 and $6,327 for the year ended December 31, 2015, for the period from inception (July 30, 2014) to December 31, 2014, the period January 1, 2014 to November 30, 2014, and the year ended December 31, 2013, respectively.

(All dollar amounts are in thousands)

Excluding leases held by Solvay for shared facilities, minimum payments for operating leases having initial or remaining non-cancelable terms in excess of one year are:

Year Ending	Operating Leases
2016	$ 6,960
2017	6,598
2018	5,110
2019	3,694
2020	3,424
Thereafter	11,176
	$36,962

Capital Leases

Certain machinery and equipment are capital leases. The reconciliation between future capital lease payments and their present value is as follows:

	2016	2017	2018	2019	2020	Thereafter	Total
Minimum future lease payments	$297	$187	$187	$187	$187	$296	$1,341
Interest	(49)	(40)	(33)	(25)	(18)	(11)	(176)
Minimum future lease payments excluding interest	$248	$147	$154	$162	$169	$285	$1,165

19. Long-term supply contract

As part of Solvay's 2004 sale of its Specialty Phosphates business, Solvay agreed to continue to supply sulfuric acid to a third party in support of the phosphoric acid production for its specialty phosphates business under a preexisting supply agreement. This non-cancelable agreement extends to 2031, and was assumed by the Company in connection with the Acquisition. Actual losses incurred during the year ended December 31, 2015, the period December 1, 2014 to December 31, 2014, the period from January 1, 2014 to November 30, 2014, and year ended December 31, 2013, (and included within gross profit) were $1,163, $0, $662 and $900, respectively.

The liability associated with this supply agreement was recorded at an estimated fair value of $27,300 at the Acquisition date (as discussed in Note 5, "Acquisition"). The fair value was determined by appraisal, based on the marked up price of the sulfuric acid over the price per the supply agreement, or mark up. The liability as of December 31, 2015 and December 31, 2014 was $25,526 and $27,164, respectively. For the year ended December 31, 2015, this liability was reduced by $1,638 via a corresponding credit to cost of sales, which offsets the aforementioned operating loss.

20. Subsequent Events

These financial statements reflect management's evaluation of subsequent events through March 28, 2016, the date Eco Services' financial statements were available to be issued.

$500,000,000

PQ CORPORATION

% Senior Secured Notes due 2022

OFFERING MEMORANDUM

, 2016

Joint Book-Running Managers

Citigroup

Credit Suisse

Morgan Stanley

J.P. Morgan

Jefferies

Goldman, Sachs & Co.

Deutsche Bank Securities

KeyBanc Capital Markets