

MARTIN MARIETTA MATERIALS INC

FORM 10-K (Annual Report)

Filed 02/24/17 for the Period Ending 12/31/16

Address	2710 WYCLIFF ROAD RALEIGH, NC 27607
Telephone	9197814550
CIK	0000916076
Symbol	MLM
SIC Code	1400 - Mining & Quarrying of Nonmetallic Minerals (No Fuels)
Industry	Construction Materials
Sector	Basic Materials
Fiscal Year	12/31

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2016

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission file number 1-12744

MARTIN MARIETTA MATERIALS, INC.

(Exact name of registrant as specified in its charter)

North Carolina
(State or other jurisdiction of
incorporation or organization)

56-1848578
(I.R.S. Employer
Identification No.)

2710 Wycliff Road, Raleigh, North Carolina
(Address of principal executive offices)

27607-3033
(Zip Code)

(919) 781-4550
(Registrant's telephone number, including area code)

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

Title of each class
Common Stock (par value \$.01 per share)

Name of each exchange on which registered
New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company) Smaller reporting company

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

As of June 30, 2016, the last business day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was \$8,873,085,696 based on the closing sale price as reported on the New York Stock Exchange.

Indicate the number of shares outstanding of each of the issuer's classes of common stock on the latest practicable date.

<u>Class</u>	<u>Outstanding at February 10, 2017</u>
Common Stock, \$.01 par value per share	63,067,156 shares

DOCUMENTS INCORPORATED BY REFERENCE

<u>Document</u>	<u>Parts Into Which Incorporated</u>
Excerpts from Annual Report to Shareholders for the Fiscal Year Ended December 31, 2016 (Annual Report)	Parts I, II, and IV
Proxy Statement for the Annual Meeting of Shareholders to be held May 18, 2017 (Proxy Statement)	Part III

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PART I

ITEM 1. BUSINESS

General

Martin Marietta Materials, Inc. (the “Company”) is a leading supplier of aggregates products (crushed stone, sand, and gravel) used for the construction of infrastructure, nonresidential, and residential projects. Aggregates products are also used for railroad ballast and in agricultural, utility and environmental applications. The Company’s Aggregates business consists primarily of mining, processing, and selling granite, limestone, sand and gravel. The Aggregates business also includes aggregates-related downstream product lines (including its heavy building materials such as asphalt products, ready mixed concrete, and road paving construction services). The Company is also a leading supplier of cement, ready mixed concrete, and asphalt and paving services in some regions where being able to supply a full range of products is important for customer service. The Company’s Cement business produces Portland and specialty cements. The Company also has a Magnesia Specialties business that manufactures and markets magnesia-based chemical products used in industrial, agricultural, and environmental applications, and dolomitic lime sold primarily to customers in the steel industry.

The Company was formed in 1993 as a North Carolina corporation to serve as successor to the operations of the materials group of the organization that is now Lockheed Martin Corporation. An initial public offering of a portion of the Company’s Common Stock was completed in 1994, followed by a tax-free exchange transaction in 1996 that resulted in 100% of the Company’s Common Stock being publicly traded.

The Company completed over 85 smaller acquisitions from the time of its initial public offering until the present, which allowed the Company to enhance and expand its presence in the aggregates marketplace. This included an exchange of certain assets in 2011 with Lafarge North America Inc. (“Lafarge”), pursuant to which it received aggregates quarry sites, ready mixed concrete and asphalt plants, and a road paving business in and around the metropolitan Denver, Colorado, and the I-25 corridor, in exchange for which Lafarge received properties consisting of quarries, an asphalt plant and distribution yards operated by the Company along the Mississippi River (called the Company’s “River District Operations”) and a cash payment. The Company uses its ability to distribute materials over long distances by rail and water to further expand its operations.

The business has developed further through the following transactions over the past five years.

In 2013, the Company acquired three aggregates quarries in the greater Atlanta, Georgia, area. The transaction provided over 800 million tons of permitted aggregate reserves and enhanced the Company’s existing long-term position in this market.

In 2014, the Company completed the acquisition of Texas Industries, Inc. (“TXI”), further augmenting its position as a leading supplier of aggregates and heavy building materials. TXI, as a stand-alone entity, was a

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leading supplier of heavy construction materials in the southwestern United States and a major supplier of natural aggregates and ready mixed concrete in Texas, northern Louisiana and, to a lesser extent, in Oklahoma and Arkansas. TXI was the largest supplier of ready mixed concrete, concrete products and cement in Texas. TXI enhanced the Company's position as an aggregates-led, low-cost operator in the large and fast-growing geographies in the United States and provided high-quality assets in cement and ready mixed concrete.

In addition to the Cement business, the Company acquired as part of the TXI acquisition nine quarries and six aggregates distribution terminals located in Texas, Louisiana and Oklahoma. The Company also acquired approximately 120 ready mixed concrete plants, situated primarily in three areas of Texas (the Dallas/Fort Worth/Denton area of north Texas; the Austin area of central Texas; and from Beaumont to Texarkana in east Texas), in north and central Louisiana and in Southwestern Arkansas. As part of an agreement with the United States Department of Justice's review of the transaction, the Company divested of its North Troy Quarry in Oklahoma and two related rail distribution yards in Dallas and Frisco, Texas.

TXI was also a cement producer in California. In 2015, the Company divested its California cement business acquired from TXI. These operations were not in close proximity to other core assets of the Company and, unlike other marketplace competitors, were not vertically integrated with ready mixed concrete production. The divestiture primarily included a cement plant, two distribution terminals, mobile equipment, intangible assets and inventory. The Company also completed the integration of the TXI operations in 2015, and completed three smaller acquisitions, which included three aggregates operations and related assets.

In 2016, the Company acquired aggregates, ready mixed concrete and asphalt and paving operations in southern Colorado that provided more than 500 million tons of mineral reserves and expanded the Company's presence along the Front Range of the Rocky Mountains, home to 80% of Colorado's population. The Company also acquired the remaining interest it had not previously owned in a ready mixed concrete company that serves the I-35 corridor in central Texas between Dallas and Austin, which enhanced the Company's position and provided additional vertical integration benefits with the Company's Cement business.

Between 2001 and 2016, the Company disposed of or idled a number of underperforming operations, including aggregates, ready mixed concrete, trucking, and asphalt and road paving operations of its Aggregates business and the refractories business of its Magnesia Specialties business. In some of its divestitures, the Company concurrently entered into supply agreements to provide aggregates at market rates to certain of these divested businesses. During 2015, the Company disposed of certain non-core asphalt operations in San Antonio, Texas and divested its California cement operations of its Cement business. The Company will continue to evaluate opportunities to divest underperforming assets, if appropriate, during 2017 in an effort to redeploy capital for other opportunities.

Business Segment Information

The Company conducts its Aggregates business through three reportable segments: the Mid-America Group, Southeast Group and West Group. The Company's Cement business is reported through the Cement segment. The Company also has the Magnesia Specialties segment, which includes its magnesia-based chemicals and dolomitic lime businesses. Information concerning the Company's total revenues, net sales, gross profit, earnings from operations, assets employed, and certain additional information attributable to each

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reportable business segment for each year in the three-year period ended December 31, 2016 is included in “Note O: Business Segments” of the “Notes to Financial Statements” of the Company’s 2016 consolidated financial statements (the “2016 Financial Statements”), which are included under Item 8 of this Form 10-K, and are part of the Company’s 2016 Annual Report to Shareholders (the “2016 Annual Report”), which information is incorporated herein by reference.

Aggregates Business

The Aggregates business mines, processes and sells granite, limestone, sand, gravel and other aggregates products for use in all sectors of the public infrastructure, nonresidential and residential construction industries, as well as agriculture, railroad ballast, chemical and other uses. The Aggregates business also includes the operation of other construction materials businesses. These businesses, located in the West Group, were acquired through continued selective vertical integration by the Company, and include ready mixed concrete, and asphalt and road paving operations in Arkansas, Colorado, Louisiana, Texas and Wyoming.

The Company is a leading supplier of aggregates for the construction industry in the United States. In 2016, the Company’s Aggregates business shipped and delivered aggregates, asphalt products and ready mixed concrete from a network of nearly 300 quarries, underground mines, and distribution facilities, and approximately 150 ready mixed concrete plants, to customers in 29 states, Canada, and the Bahamas, generating net sales and earnings from operations of \$3.1 billion and \$576.0 million, respectively.

The Aggregates and Cement businesses market their products primarily to the construction industry, with approximately 39% of the aggregates product line shipments in 2016 made to contractors in connection with highway and other public infrastructure projects and the balance of its shipments made primarily to contractors in connection with nonresidential and residential construction projects. The Company believes public-works projects have historically accounted for approximately 50% of the total annual aggregates and cement consumption in the United States. Therefore, these businesses benefit from public-works construction projects. The Company also believes exposure to fluctuations in nonresidential and residential, or private-sector, construction spending is lessened by the business’ mix of public sector-related shipments. However, after uncertainty regarding the solvency of the highway bill in 2014, the Company experienced a slight retraction in aggregates shipments to the infrastructure end-use market. Consistent with this trend, the infrastructure market accounted for a lower percentage of the Company’s aggregates product line shipments in 2016 and 2015 compared with the most recent five-year average of 44%.

As a result of dependence upon the construction industry, the profitability of aggregates and cement producers is sensitive to national, regional and local economic conditions, and particularly to cyclical swings in construction spending, which is affected by fluctuations in interest rates, demographic and population shifts, and changes in the level of infrastructure spending funded by the public sector.

The Company’s aggregates product line shipments have increased each of the past five years, reflecting degrees of stability and modest growth. However, aggregates volumes are still below historically normal levels. Prior to 2011, the economic recession resulted in United States aggregates consumption declining by almost 40% from peak volumes in 2006. Aggregates shipments had also suffered as states continued to balance their construction spending with the uncertainty related to long-term federal highway funding and budget

shortfalls caused by decreasing tax revenues. However, most state budgets began to improve starting in 2013 as increased tax revenues helped states resolve or begin to resolve budget deficits. During 2016, the Company's aggregates shipments increased 1.4% compared with 2015.

The federal highway bill provides annual funding for public-sector highway construction projects. After a decade of 36 short-term funding provisions since the prior federal highway bill, *Moving Ahead for Progress in the 21st Century* ("MAP-21"), expired, the five-year, \$305 billion highway bill, *Fixing America's Surface Transportation Act* (the "FAST Act" or the "Act"), was signed into law in December, 2015. The FAST Act reauthorizes federal highway and public transportation programs. Funding for the FAST Act is primarily secured through gas tax collections and will enable states to purchase and use an estimated additional 114 million tons of aggregates over the life of the Act. \$207.4 billion of the FAST Act funding will be apportioned to the states, with a 5.1% increase over actual fiscal year 2015 apportionments in 2016 and then inflationary increases in subsequent years. Meaningful impact from the FAST Act is expected beginning in 2017. Although the FAST Act did not meaningfully impact 2016 highway spending, the total value of public-works spending across the United States increased, demonstrating the continued commitment of many states to address underlying demand for infrastructure investment. During the past 24 months, many states have taken on a significantly larger role in funding infrastructure investment, including initiating special-purpose taxes and raising gas taxes.

The FAST Act retains the programs supported under the predecessor bill, MAP-21, but with some changes. Specifically, *Transportation Infrastructure and Innovation Act* ("TIFIA"), a U.S. Department of Transportation alternative funding mechanism, which under MAP-21 provided three types of federal credit assistance for nationally or regionally significant surface transportation projects, now allows more diversification of projects. TIFIA is designed to fill market gaps and leverage substantial private co-investment by providing projects with supplemental or subordinate debt that is not subject to national debt ceiling challenges or sequestration. Since inception, TIFIA has provided more than \$25 billion of credit assistance to over 50 projects representing over \$90 billion in infrastructure investment. Under the FAST Act, TIFIA annual funding ranges from \$275 million to \$300 million and no longer requires the 20% matching funds from state departments of transportation. Consequently, states can advance construction projects immediately with potentially zero upfront outlay of local state department of transportation dollars. TIFIA requires projects to have a revenue source to pay back the credit assistance within a 30 to 40 year period. Moreover, TIFIA funds may represent up to 49% of total eligible project costs for a TIFIA-secured loan and 33% for a TIFIA standby line of credit. Therefore, the TIFIA program has the ability to significantly leverage construction dollars. Each dollar of federal funds can provide up to \$10 in TIFIA credit assistance and support up to \$30 in transportation infrastructure investment. Private investment in transportation projects funded through the TIFIA program is particularly attractive, in part due to the subordination of public investment to private. Management believes TIFIA could provide a substantial boost for state department of transportation construction programs well above what is currently budgeted. As of January 2017, TIFIA funded projects for the Company's key states (Texas, Colorado, North Carolina, Iowa and Georgia) exceeded \$22 billion.

The federal highway bill provides spending authorizations, which represent the maximum financial obligation that will result from the immediate or future outlays of federal funds for highway and transit programs. The federal government's surface transportation programs are financed mostly through the receipts of highway user taxes placed in the Highway Trust Fund, which is divided into the Highway Account and the

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Mass Transit Account. Revenues credited to the Highway Trust Fund are primarily derived from a federal gas tax, a federal tax on certain other motor fuels and interest on the accounts' accumulated balances. Of the currently imposed federal gas tax of \$0.184 per gallon, which has been static since 1993, \$0.15 is allocated to the Highway Account of the Highway Trust Fund.

Transportation investments generally boost the national economy by enhancing mobility and access and by creating jobs, which is a priority of many of the government's economic plans. According to the Federal Highway Administration, every \$1 billion in federal highway investment creates approximately 28,000 jobs. The number of jobs created is dependent on the nature and aggregates intensity of the projects. Approximately half of the Aggregates business' net sales to the infrastructure market come from federal funding authorizations, including matching funds from the states. For each dollar spent on road, highway and bridge improvements, the Federal Highway Administration estimates an average benefit of \$5.20 is recognized in the form of reduced vehicle maintenance costs, reduced delays, reduced fuel consumption, improved safety, reduced road and bridge maintenance costs and reduced emissions as a result of improved traffic flow.

The Company's Aggregates business covers a wide geographic area. The Company's five largest revenue-generating states (Texas, Colorado, North Carolina, Iowa and Georgia) accounted for 73% of total 2016 net sales for the Aggregates business by state of destination. The Company's Aggregates business is accordingly affected by the economies in these regions and has been adversely affected in part by recessions and weaknesses in these economies from time to time. Recent improvements in the national economy and in some of the states in which the Company operates have led to improvements in profitability in the Company's Aggregates business.

The Company's Aggregates business is also highly seasonal, due primarily to the effect of weather conditions on construction activity within its markets. The operations of the Aggregates business that are concentrated in the northern and midwestern United States and Canada typically experience more severe winter weather conditions than operations in the southeastern and southwestern regions of the United States. Excessive rainfall, flooding, or severe drought can also jeopardize shipments, production, and profitability in all of the Company's markets. Subject to these factors, the Company's second and third quarters are typically the strongest, with the first quarter generally reflecting the weakest results. Results in any quarter are not necessarily indicative of the Company's annual results. Similarly, the operations of the Aggregates business in the coastal areas are at risk for hurricane activity, most notably in August, September and October, and have experienced weather-related losses from time to time.

Weather-related hindrances were exacerbated over the last two years by record precipitation in many of the Company's key markets. Net sales, production and cost structure were adversely affected by the significant precipitation. The National Oceanic and Atmospheric Administration ("NOAA") has tracked precipitation for 122 years. According to NOAA, 2015 represented the wettest year on record for Texas and Oklahoma, while North Carolina, South Carolina, Colorado and Iowa each experienced a top-ten precipitation year, and the nation as a whole had its third-wettest year in NOAA recorded history. In 2016, many areas in the United States again experienced significant amounts of precipitation. Texas experienced its 18th wettest year in the state's recorded history per NOAA. Further, since March 2015, Texas and surrounding regions have experienced 18 major flood events. Additionally, in October 2016, rainfall along the eastern seaboard of the United States from Hurricane Matthew, a category-5 hurricane, approximated 13.6 trillion gallons. Hurricane

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Matthew was also the first major hurricane on record to make landfall in the Bahamas, where the Company has a facility. Accordingly, the Company's financial results for any year, and notably 2016 and 2015, or year-to-year comparisons of reported results, may not be indicative of future operating results.

Natural aggregates sources can be found in relatively homogeneous deposits in certain areas of the United States. As a general rule, truck shipments from an individual quarry are limited because the cost of transporting processed aggregates to customers is high in relation to the price of the product itself. As described below, the Company's distribution system mainly uses trucks, but also has access to a river barge and ocean vessel network where the per mile unit cost of transporting aggregates is much lower. In addition, acquisitions have enabled the Company to extend its customer base through increased access to rail transportation. Proximity of quarry facilities to customers or to long-haul transportation corridors is an important factor in competition for aggregates businesses.

A significant percentage of the Company's aggregates shipments continue to be moved by rail or water through a distribution yard network. In 1994, 93% of the Company's aggregates shipments were moved by truck, the rest by rail. In contrast, in 2016, the originating mode of transportation for the Company's aggregates shipments was 76% by truck, 20% by rail, and 4% by water. Although the Company divested its River District Operations in 2011 as part of the asset exchange with Lafarge, the development of deep-water and rail distribution yards continues to be a key component of the Company's strategic growth plan. While the River District Operations were being serviced as part of the Company's barge long-haul distribution network, those divested operations were not in high-growth states. The majority of rail and water movements occur in the Southeast Group and the West Group, that have certain areas which generally lack a long-term indigenous supply of coarse aggregates but exhibit above-average growth characteristics driven by long-term population growth and density, employment growth and economic diversity. The Company has an extensive network of aggregate quarries and distribution centers throughout the southern United States and in the Bahamas and Canada, as well as distribution centers along the Gulf of Mexico and Atlantic coasts. In 2016, 24.8 million tons of aggregates were sold from distribution yards.

The Company's Medina Rock and Rail ("Medina") capital project, with a total cost of \$160 million, was the largest capital expansion project in its history. Located near San Antonio, Texas, Medina consists of a rail-connected limestone aggregates processing facility which shipped approximately four million tons in 2016 and has the future capability of producing in excess of 10 million tons per year. Medina became operational in January 2016.

The Company also acquires contiguous property around existing quarry locations. This property can serve as buffer property or additional mineral reserve capacity, assuming the underlying geology supports economical aggregates mining. In either instance, the acquisition of additional property around an existing quarry allows the expansion of the quarry footprint and extension of quarry life. Some locations having limited reserves may be unable to expand.

A long-term capital focus for the Company, primarily in the midwestern United States due to the nature of its indigenous aggregates supply, is underground limestone aggregate mines. The Company operates 14 active underground mines, located in the Mid-America Group, and is the largest operator of underground limestone aggregate mines in the United States. Production costs are generally higher at underground mines than surface quarries since the depth of the aggregate deposits and the access to the reserves result in higher development, explosives and depreciation costs. However, these locations often possess transportation advantages that can lead to higher average selling prices than more distant surface quarries.

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The Company's acquisitions and capital projects have expanded its ability to ship material by rail, as discussed in more detail below. The Company has added additional capacity in a number of locations that can now accommodate larger unit train movements. These expansion projects have enhanced the Company's long-haul distribution network. The Company's process improvement efforts have also improved operational effectiveness through plant automation, mobile fleet modernization, right-sizing and other cost control improvements. Accordingly, the Company has enhanced its reach through its ability to provide cost-effective coverage of coastal markets on the east and gulf coasts, as well as geographic areas that can be accessed economically by the Company's expanded distribution system. This distribution network moves aggregates materials from domestic and offshore sources, via rail and water, to markets where aggregates supply is limited.

As the Company continues to move more aggregates by rail and water, internal freight costs are expected to reduce gross margins (excluding freight and delivery revenues). This typically occurs where the Company transports aggregates from a production location to a distribution location by rail or water, and the customer pays a selling price that includes a freight component. Margins are negatively affected because the Company typically does not charge the customer a profit associated with the transportation component of the selling price of the materials. Moreover, the Company's expansion of its rail-based distribution network, coupled with the extensive use of rail service in the Southeast and West Groups, increases the Company's dependence on and exposure to railroad performance, including track congestion, crew availability, and power availability, and the ability to renegotiate favorable railroad shipping contracts. The waterborne distribution network, primarily located within the Southeast Group, also increases the Company's exposure to certain risks, including the ability to negotiate favorable shipping contracts, demurrage costs, fuel costs, ship availability and weather disruptions. The Company has entered into long-term agreements with shipping companies to provide ships to transport the Company's aggregates to various coastal ports.

The Company's long-term shipping contracts for shipment by water are generally take-or-pay contracts with minimum and maximum shipping requirements. If the Company fails to ship the annual minimum tonnages under the agreement, it is still obligated to pay the shipping company the contractually-stated minimum amount for that year. In 2016, the Company incurred \$1.1 million of these charges. A similar charge is possible in 2017 if shipment volumes do not meet the contractually-stated minimums.

From time to time, the Company has experienced rail transportation shortages, particularly in the Southwest and Southeast. These shortages were caused by the downsizing in personnel and equipment by certain railroads during economic downturns. Further, in response to these issues, rail transportation providers focused on increasing the number of cars per unit train under transportation contracts and are generally requiring customers, through the freight rate structure, to accommodate larger unit train movements. A unit train is a freight train moving large tonnages of a single bulk product between two points without intermediate yarding and switching. Certain of the Company's sales yards have the system capabilities to meet the unit train requirements. Over the last few years, the Company has made capital improvements to a number of its sales yards in order to better accommodate unit train unloadings. Rail availability is seasonal and can impact aggregates shipments depending on competing movements.

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From time to time, we have also experienced rail and trucking shortages due to competition from other products. If there are material changes in the availability or cost of rail or trucking services, we may not be able to arrange alternative and timely means to ship our products at a reasonable cost, which could lead to interruptions or slowdowns in our businesses or increases in our costs.

The Company's management expects the multiple transportation modes that have been developed with various rail carriers and via deep-water ships should provide the Company with the flexibility to effectively serve customers in the southeastern and southwestern regions of the United States.

The construction aggregates industry has been consolidating, and the Company has actively participated in the consolidation of the industry. When acquired, new locations sometimes do not satisfy the Company's internal safety, maintenance and pit development standards, and may require additional resources before benefits of the acquisitions are fully realized. Industry consolidation slowed several years ago as the number of suitable small to mid-sized acquisition targets in high-growth markets declined. During that period of fewer acquisition opportunities, the Company focused on investing in internal expansion projects in high-growth markets. The number of acquisition opportunities has increased in the last few years as the economy has begun to recover from the protracted recession. Opportunities include public and larger private, family-owned businesses, as well as asset swaps and divestitures from companies rationalizing non-core assets and repairing financially-constrained balanced sheets. The Company's Board of Directors and management continue to review and monitor the Company's strategic long-term plans, which include assessing business combinations and arrangements with other companies engaged in similar businesses, increasing the Company's presence in its core businesses, investing in internal expansion projects in high-growth markets, and pursuing new opportunities related to the Company's existing markets.

The Company became more vertically integrated through various acquisitions, including the 2014 TXI acquisition, in the West Group, pursuant to which the Company acquired ready mixed concrete, asphalt and paving construction operations, trucking, and other businesses, which complement the Company's aggregates operations. The Company reports these operations within the Aggregates business segment, and their results are affected by volatile factors, including fuel costs, operating efficiencies, and weather, to an even greater extent than the Company's aggregates operations. Liquid asphalt and cement serve as key raw materials in the production of hot mix asphalt and ready mixed concrete, respectively. Therefore, fluctuations in prices for these raw materials directly affect the Company's operating results. During 2016, prices for liquid asphalt were lower than 2015. Liquid asphalt prices may not always follow other energy products (e.g., oil or diesel fuel) because of complexities in the refining process which converts a barrel of oil into other fuels and petrochemical products. We expect the Company's gross margins (excluding freight and delivery revenues) to continue to improve for the legacy TXI aggregates-related downstream operations, similar to the pattern experienced at the Colorado aggregates-related downstream operations.

The Company continues to review aggregates-related downstream operations to determine if they represent opportunities to divest underperforming assets in an effort to redeploy capital for other opportunities. The Company also reviews other independent aggregates-related downstream operations to determine if they might present attractive acquisition opportunities in the best interest of the Company, either as part of their own aggregates-related downstream operations or operations that might be vertically integrated with other operations owned by the Company. Based on these assessments, the Company completed the acquisitions described under

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General above, which included aggregates-related downstream operations, including ready mixed concrete and asphalt and road paving businesses in the Denver, Colorado, and San Antonio, Texas, markets. The 2014 business combination with TXI described under *General* above further expanded the Company's aggregates-related downstream operations, with the addition of TXI's aggregates and ready mixed concrete operations. The TXI combination also added the cement operations of TXI, which are accounted for as a separate business segment of the Company. The 2016 transactions described under *General* above further added aggregates-related downstream operations, with the addition of ready mixed concrete and asphalt and paving and contracting operations along the Front Range in Colorado and ready mixed concrete operations in central Texas.

Environmental and zoning regulations have made it increasingly difficult for the aggregates industry to expand existing quarries and to develop new quarry operations. Although it cannot be predicted what policies will be adopted in the future by federal, state, and local governmental bodies regarding these matters, the Company anticipates that future restrictions will likely make zoning and permitting more difficult, thereby potentially enhancing the value of the Company's existing mineral reserves.

Management believes the Aggregates business' raw materials, or aggregates reserves, are sufficient to permit production at present operational levels for the foreseeable future. The Company does not anticipate any material difficulty in obtaining the raw materials that it uses for current production in its Aggregates business. The Company's aggregates reserves on the average exceed 60 years of production, based on normalized levels of production. However, certain locations may be subject to more limited reserves and may not be able to expand. Moreover, as noted above, environmental and zoning regulations will likely make it harder for the Company to expand its existing quarries or develop new quarry operations. The Company generally sells products in its Aggregates business upon receipt of orders or requests from customers. Accordingly, there is no significant order backlog. The Company generally maintains inventories of aggregates products in sufficient quantities to meet the requirements of customers.

Less than 1% of the revenues from the Aggregates business are from foreign jurisdictions, principally Canada and the Bahamas, with revenues from customers in foreign countries totaling \$11.8 million, \$12.3 million, and \$13.0 million, during 2016, 2015, and 2014, respectively.

Cement Business

The Cement business produces Portland and specialty cements. Cement is the basic binding agent for concrete, a primary construction material. The principal raw material used in the production of cement is calcium carbonate in the form of limestone. The Company owns more than 600 million tons of limestone reserves adjacent to its two cement production plants in Texas. Similar to the Aggregates business, cement is used in infrastructure projects, nonresidential and residential construction, and the railroad, agricultural, utility and environmental industries. Consequently, the cement industry is cyclical and dependent on the strength of the construction sector.

The Company has the leading cement position in Texas, with two production facilities, one located in Midlothian, Texas, south of Dallas-Fort Worth, and the other located in Hunter, Texas, north of San Antonio. These plants have a combined annual capacity of 4.5 million tons, as well as a current permit that provides an 800,000-ton-expansion opportunity at the Midlothian plant. In addition to these production facilities, the Company also operates five cement distribution terminals in Texas.

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From July 1, 2014 through September 30, 2015, the Company also operated a cement plant at Oro Grande, California, cement grinding and packaging facilities at the Crestmore plant near Riverside, California, and two California-based cement distribution terminals. During 2015, the Company sold all of its California cement operations. It retained the real estate at the Crestmore facility, which the Company expects to sell for non-cement use. These operations were not in close proximity to other core assets of the Company and, unlike other marketplace competitors, were not vertically integrated with ready mixed concrete production.

Cement consumption is dependent on the time of year and prevalent weather conditions. According to the Portland Cement Association, nearly two-thirds of U.S. cement consumption occurs in the six months between May and October. The majority of all cement shipments, approximately 70 percent, are sent to ready-mix concrete operators. The rest are shipped to manufacturers of concrete related products, contractors, materials dealers, oil well/mining/drilling companies, as well as government entities.

Energy, including electricity and fossil fuels, accounted for approximately 22% of the cement production cost profile in 2016. Therefore, profitability of the Cement business is affected by changes in energy prices and the available supply of these products. The Company currently has fixed-price supply contracts for coal but also consumes natural gas, alternative fuel and petroleum coke. Further, profitability of the Cement business is also subject to kiln maintenance. This process typically requires a plant to be shut down for a period of time as repairs are made. In 2016, the Cement business incurred ordinary kiln maintenance shutdown costs of \$20.9 million.

The Cement business is benefitting from continued strength in the Texas markets, where current demand exceeds local supply, a trend that is expected to continue for the near future. The Company shipped a total of 3.5 million tons of cement in 2016, with 2.3 million tons shipped to external customers in five states and 1.2 million tons consumed by the Company for internal use. A portion of the cement is used internally in the Company's ready mixed concrete product line. For 2016, the Cement business generated net sales and earnings from operations of \$364.4 million and \$99.4 million, respectively.

The limestone reserves used as a raw material for cement are located on property, owned by the Company, adjacent to each of the cement plants. Management believes that its reserves of limestone are sufficient to permit production at the current operational levels for the foreseeable future.

The Cement business generally delivers its products upon receipt of orders or requests from customers. Accordingly, there are no significant levels of order backlog. Inventory for products is generally maintained in sufficient quantities to meet rapid delivery requirements of customers .

From time to time a small percentage of the Company's cement sales are to customers located outside the United States. The Company had no such sales in 2016 since the Company sold the California cement operations in 2015; previously such sales were less than 2% of revenues for the Cement business, coming from sales from California to customers in Mexico, with revenues from such customers totaling \$0.4 million during 2015 and \$3.8 million during 2014 for the period from the July 1, 2014 acquisition of TXI.

Magnesia Specialties Business

The Company manufactures and markets, through its Magnesia Specialties business, magnesia-based chemical products for industrial, agricultural and environmental applications, and dolomitic lime for use primarily in the steel industry. These chemical products have varying uses, including flame retardants, wastewater treatment, pulp and paper production and other environmental applications. In 2016, 69% of Magnesia Specialties' net sales were attributable to chemical products, 30% to lime, and 1% to stone sold as construction materials. For 2016, the Magnesia Specialties business generated record net sales and earnings from operations of \$238.0 million and \$79.1 million, respectively.

Given the high fixed costs associated with operating this business, low capacity utilization negatively affects its results of operations. A significant portion of the costs related to the production of magnesia-based products and dolomitic lime is of a fixed or semi-fixed nature. In addition, the production of certain magnesia chemical products and lime products requires natural gas, coal, and petroleum coke to fuel kilns. Price fluctuations of these fuels affect the profitability of this business. The Company has sought to mitigate certain of these fluctuations and risks by entering into fixed-price supply contracts for certain fuels, including natural gas, coal and petroleum coke.

In 2016, 83% of the lime produced was sold to third-party customers, while the remaining 17% was used internally as a raw material in making the business' chemical products. Dolomitic lime products sold to external customers are used primarily by the steel industry. Products used in the steel industry, either directly as dolomitic lime or indirectly as a component of other industrial products, accounted for 41% of the Magnesia Specialties' net sales in 2016, attributable primarily to the sale of dolomitic lime products. Accordingly, a portion of the revenues and profitability of the Magnesia Specialties business is affected by production and inventory trends in the steel industry. These trends are guided by the rate of consumer consumption, the flow of offshore imports, and other economic factors. The dolomitic lime business runs most profitably at 70% or greater steel capacity utilization; domestic capacity utilization averaged 71% in 2016, according to the American Iron and Steel Institute. Average steel production in 2016 declined 0.5% versus 2015. Declining steel utilization and United States dollar strength could adversely affect Magnesia Specialties' operating results.

Management has shifted the strategic focus of the magnesia-based business to specialty chemicals that can be produced at volume levels that support efficient operations. Accordingly, that product line is not as dependent on the steel industry as is the dolomitic lime portion of the Magnesia Specialties business.

The principal raw materials used in the Magnesia Specialties business are dolomitic limestone and alkali-rich brine. Management believes that its reserves of dolomitic limestone and brine are sufficient to permit production at the current operational levels for the foreseeable future.

After the brine is used in the production process, the Magnesia Specialties business must dispose of the processed brine. In the past, the business did this by reinjecting the processed brine back into its underground brine reserve network around its facility in Manistee, Michigan. The business has also sold a portion of this processed brine to third parties. In 2003, Magnesia Specialties entered into a long-term processed brine supply agreement with The Dow Chemical Company ("Dow") pursuant to which Dow purchases processed brine from Magnesia Specialties, at market rates, for use in Dow's production of calcium chloride products. Magnesia

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Specialties also entered into a venture with Dow to construct, own and operate a processed brine supply pipeline between the Magnesia Specialties facility in Manistee, Michigan, and Dow's facility in Ludington, Michigan. Construction of the pipeline was completed in 2003, and Dow began purchasing processed brine from Magnesia Specialties through the pipeline. In 2010, Dow sold the assets of Dow's facility in Ludington, Michigan to Occidental Chemical Corporation ("Occidental") and assigned to Occidental its interests in the long-term processed brine supply agreement and the pipeline venture with Magnesia Specialties.

Magnesia Specialties generally delivers its products upon receipt of orders or requests from customers. Accordingly, there is no significant order backlog. Inventory for products is generally maintained in sufficient quantities to meet rapid delivery requirements of customers. A significant portion of the 275,000 ton dolomitic lime capacity from a lime kiln completed in 2012 at Woodville, Ohio is committed under a long-term supply contract.

The Magnesia Specialties business is highly dependent on rail transportation, particularly for movement of dolomitic lime from Woodville to Manistee and direct customer shipments of dolomitic lime and magnesia chemicals products from both Woodville and Manistee. The segment can be affected by the specific transportation and other risks and uncertainties outlined under Item IA., Risk Factors, of this Form 10-K.

Approximately 18% of the revenues of the Magnesia Specialties business in 2016 were from foreign jurisdictions, principally Canada, Mexico, Europe, South America and the Pacific Rim, but no single foreign country accounted for 10% or more of the revenues of the business. Revenues from customers in foreign countries totaled \$43.0 million, \$32.7 million, and \$29.0 million, in 2016, 2015, and 2014, respectively. As a result of these foreign market sales, the financial results of the Magnesia Specialties business could be affected by foreign currency exchange rates or weak economic conditions in the foreign markets. To mitigate the short-term effects of currency exchange rates, the Magnesia Specialties business' sales are predominately denominated in the United States dollar. However, the current strength of the United States dollar in foreign markets is negatively affecting the overall price of Magnesia Specialties' products when compared with foreign-domiciled competitors.

Patents and Trademarks

As of February 10, 2017, the Company owns, has the right to use, or has pending applications for approximately 23 patents pending or granted by the United States and various countries and approximately 104 trademarks related to business. The Company believes that its rights under its existing patents, patent applications and trademarks are of value to its operations, but no one patent or trademark or group of patents or trademarks is material to the conduct of the Company's business as a whole.

Customers

No material part of the business of any segment of the Company is dependent upon a single customer or upon a few customers, the loss of any one of which would have a material adverse effect on the segment. The Company's products are sold principally to commercial customers in private industry. Although large amounts of construction materials are used in public works projects, relatively insignificant sales are made directly to federal, state, county, or municipal governments, or agencies thereof.

Competition

Because of the impact of transportation costs on the aggregates industry, competition in the Aggregates business tends to be limited to producers in proximity to each of the Company's facilities. Although all of the Company's locations experience competition, the Company believes that it is generally a leading producer in the areas it serves. Competition is based primarily on quarry or distribution location and price, but quality of aggregates and level of customer service are also factors.

There are over 5,500 companies in the United States that produce construction aggregates. These include active crushed stone companies and active sand and gravel companies. The largest ten producers account for approximately 35% of the total market. The Company's aggregates-related downstream operations are also characterized by numerous operators. A national trade association estimates there are about 5,500 ready mixed concrete plants in the United States owned by over 2,200 companies, with about 55,000 mixer trucks delivering ready mixed concrete. Similarly, a national trade association estimates there are about 3,700 asphalt plants in the United States owned by over 800 companies. The Company, in its Aggregates business, including its aggregates-related downstream operations, competes with a number of other large and small producers. The Company believes that its ability to transport materials by ocean vessels and rail have enhanced the Company's ability to compete in the aggregates industry.

The Company's Magnesia Specialties business competes with various companies in different geographic and product areas principally on the basis of quality, price, technological advances, and technical support for its products. The Magnesia Specialties business also competes for sales to customers located outside the United States, with revenues from foreign jurisdictions accounting for 18% of revenues for the Magnesia Specialties business in 2016, principally in Canada, Mexico, Europe, South America, and the Pacific Rim.

According to the Portland Cement Association, United States cement production is widely dispersed with the operation of 107 cement plants in 36 states. The top five companies collectively operate 49.6% of U.S. clinker capacity with the largest company representing 14.2% of all domestic clinker capacity. An estimated 76.7% of U.S. clinker capacity is owned by companies headquartered outside of the United States. In reviewing these figures for cement plants, capacity is often stated in terms of "clinker" capacity. "Clinker" is the initial product of cement production. Cement producers mine materials such as limestone, shale, or other materials, crush and screen the materials, and place them in a cement kiln. After being heated to extremely high temperatures, these materials form marble-sized balls or pellets called "clinker" that are then very finely ground to produce portland cement.

The Company's Cement business competes with various companies in different geographic and product areas principally on the basis of proximity, quality and price for its products, but level of customer service is also a factor. The Cement business also competes with imported cement because of the higher value of the product and the existence of major ports in some of our markets. Certain of the Company's competitors in the Cement business have greater financial resources than the Company.

The nature of the Company's competition varies among its product lines due to the widely differing amounts of capital necessary to build production facilities. Crushed stone production from stone quarries or

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mines, or sand and gravel production by dredging, is moderately capital intensive. The Company's major competitors in the aggregates markets are typically large, vertically integrated companies, with international operations. Ready mixed concrete production requires relatively small amounts of capital to build a concrete batching plant and acquire delivery trucks. Accordingly, economics can lead to lower barriers to entry in some markets. As a result, depending on the local market, the Company may face competition from small producers as well as large, vertically integrated companies with facilities in many markets. Construction of cement production facilities is highly capital intensive and requires long lead times to complete engineering design, obtain regulatory permits, acquire equipment and construct a plant. Most domestic producers of cement are owned by large foreign companies operating in multiple international markets. Many of these producers maintain the capability to import cement from foreign production facilities.

Research and Development

The Company conducts research and development activities, principally for its magnesia-based chemicals business, at its plant in Manistee, Michigan. In general, the Company's research and development efforts are directed to applied technological development for the use of its chemicals products. The amounts spent by the Company in each of the last two years on research and development activities were not material.

Environmental and Governmental Regulations

The Company's operations are subject to and affected by federal, state, and local laws and regulations relating to the environment, health and safety, and other regulatory matters. Certain of the Company's operations may from time to time involve the use of substances that are classified as toxic or hazardous substances within the meaning of these laws and regulations. Environmental operating permits are, or may be, required for certain of the Company's operations, and such permits are subject to modification, renewal and revocation.

The Company records an accrual for environmental remediation liabilities in the period in which it is probable that a liability has been incurred and the amounts can be reasonably estimated. Such accruals are adjusted as further information develops or circumstances change. The accruals are not discounted to their present value or offset for potential insurance or other claims or potential gains from future alternative uses for a site.

The Company regularly monitors and reviews its operations, procedures, and policies for compliance with existing laws and regulations, changes in interpretations of existing laws and enforcement policies, new laws that are adopted, and new laws that the Company anticipates will be adopted that could affect its operations. The Company has a full time staff of environmental engineers and managers that perform these responsibilities. The direct costs of ongoing environmental compliance were approximately \$21.5 million in 2016 and approximately \$24.7 million in 2015 and are related to the Company's environmental staff, ongoing monitoring costs for various matters (including those matters disclosed in this Annual Report on Form 10-K), and asset retirement costs. Capitalized costs related to environmental control facilities were approximately \$8.7 million in 2016 and are expected to be approximately \$9.0 million in 2017 and 2018. The Company's capital expenditures for environmental matters were not material to its results of operations or financial condition in 2016 and 2015. However, our expenditures for environmental matters generally have increased over time and

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are likely to increase in the future. Despite our compliance efforts, risk of environmental liability is inherent in the operation of the Company's businesses, as it is with other companies engaged in similar businesses, and there can be no assurance that environmental liabilities will not have a material adverse effect on the Company in the future.

Many of the requirements of the environmental laws are satisfied by procedures that the Company adopts as best business practices in the ordinary course of its operations. For example, plant equipment that is used to crush aggregates products may, as an ordinary course of operations, have an attached water spray bar that is used to clean the stone. The water spray bar also suffices as a dust control mechanism that complies with applicable environmental laws. The Company does not break out the portion of the cost, depreciation, and other financial information relating to the water spray bar that is only attributable to environmental purposes, as it would be derived from an arbitrary allocation methodology. The incremental portion of such operating costs that is attributable to environmental compliance rather than best operating practices is impractical to quantify. Accordingly, the Company expenses costs in that category when incurred as operating expenses.

The environmental accruals recorded by the Company are based on internal studies of the required remediation costs and estimates of potential costs that arise from time to time under federal, state and/or local environmental protection laws. Many of these laws and the regulations promulgated under them are complex, and are subject to challenges and new interpretations by regulators and the courts from time to time. In addition, new laws are adopted from time to time. It is often difficult to accurately and fully quantify the costs to comply with new rules until it is determined the type of operations to which they will apply and the manner in which they will be implemented is more accurately defined. This process often takes years to finalize and changes significantly from the time the rules are proposed to the time they are final. The Company typically has several appropriate alternatives available to satisfy compliance requirements, which could range from nominal costs to some alternatives that may be satisfied in conjunction with equipment replacement or expansion that also benefits operating efficiencies or capacities and carry significantly higher costs.

Management believes that its current accrual for environmental costs is reasonable, although those amounts may increase or decrease depending on the impact of applicable rules as they are finalized from time to time and changes in facts and circumstances. The Company believes that any additional costs for ongoing environmental compliance would not have a material adverse effect on the Company's obligations or financial condition.

Future reclamation costs are estimated using statutory reclamation requirements and management's experience and knowledge in the industry, and are discounted to their present value using a credit-adjusted, risk-free rate of interest. The future reclamation costs are not offset by potential recoveries. For additional information regarding compliance with legal requirements, see "Note N: Commitments and Contingencies" of the "Notes to Financial Statements" of the 2016 Financial Statements and the 2016 Annual Report. The Company is generally required by state or local laws or pursuant to the terms of an applicable lease to reclaim quarry sites after use. The Company performs activities on an ongoing basis that may reduce the ultimate reclamation obligation. These activities are performed as an integral part of the normal quarrying process. For example, the perimeter and interior walls of an open pit quarry are sloped and benched as they are developed to prevent erosion and provide stabilization. This sloping and benching meets dual objectives — safety regulations required by the Mine Safety and Health Administration for ongoing operations and final reclamation

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requirements. Therefore, these types of activities are included in normal operating costs and are not a part of the asset retirement obligation. Historically, the Company has not incurred substantial reclamation costs in connection with the closing of quarries. Reclaimed quarry sites owned by the Company are available for sale, typically for commercial development or use as reservoirs.

The Company believes that its operations and facilities, both owned or leased, are in substantial compliance with applicable laws and regulations and that any noncompliance is not likely to have a material adverse effect on the Company's operations or financial condition. See "Legal Proceedings" under Item 3 of this Form 10-K, "Note N: Commitments and Contingencies" of the "Notes to Financial Statements" of the 2016 Financial Statements included under Item 8 of this Form 10-K and the 2016 Annual Report, and "Management's Discussion and Analysis of Financial Condition and Results of Operations - Environmental Regulation and Litigation" included under Item 7 of this Form 10-K and the 2016 Annual Report. However, future events, such as changes in or modified interpretations of existing laws and regulations or enforcement policies, or further investigation or evaluation of the potential health hazards of certain products or business activities, may give rise to additional compliance and other costs that could have a material adverse effect on the Company.

In general, quarry, mining and production facilities for asphalt, cement and ready mixed concrete must comply with air quality, water quality, and noise regulations, zoning and special use permitting requirements, applicable mining regulations, and federal health and safety requirements. As new quarry and mining sites and production facilities are located and acquired, the Company works closely with local authorities during the zoning and permitting processes to design new quarries, mines and production facilities in such a way as to minimize disturbances. The Company frequently acquires large tracts of land so that quarry, mine, and production facilities can be situated substantial distances from surrounding property owners. Also, in certain markets the Company's ability to transport material by rail and ship allows it to locate its facilities further away from residential areas. The Company has established policies designed to minimize disturbances to surrounding property owners from its operations.

As is the case with other companies in the same industry, some of the Company's products contain varying amounts of crystalline silica, a common mineral also known as quartz. Excessive, prolonged inhalation of very small-sized particles of crystalline silica has been associated with lung diseases, including silicosis, and several scientific organizations and some states, such as California, have reported that crystalline silica can cause lung cancer. The Mine Safety and Health Administration and the Occupational Safety and Health Administration have established occupational thresholds for crystalline silica exposure as respirable dust. The Company monitors occupational exposures at its facilities and implements dust control procedures and/or makes available appropriate respiratory protective equipment to maintain the occupational exposures at or below the appropriate levels. The Company, through safety information sheets and other means, also communicates what it believes to be appropriate warnings and cautions its employees and customers about the risks associated with excessive, prolonged inhalation of mineral dust in general and crystalline silica in particular.

As is the case with other companies in the cement industry, the Company's cement operations produce varying quantities of cement kiln dust ("CKD"). This production by-product consists of fine-grained, solid, highly alkaline material removed from cement kiln exhaust gas by air pollution control devices. Because much

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of the CKD is actually unreacted raw materials, it is generally permissible to recycle the CKD back into the production process, and large amounts often are treated in such manner. CKD that is not returned to the production process or sold as a product itself is disposed in landfills. CKD is currently exempted from federal hazardous waste regulations under Subtitle C of the Resource Conservation and Recovery Act.

In 2010, the United States Environmental Protection Agency (“USEPA”) included the lime industry as a national enforcement priority under the federal Clean Air Act (“CAA”). As part of the industry wide effort, the USEPA issued Notices of Violation/Findings of Violation (“NOVs”) to the Company in 2010 and 2011 regarding the Company’s compliance with the CAA New Source Review (“NSR”) program at the Magnesia Specialties dolomitic lime manufacturing plant in Woodville, Ohio. The Company has been providing information to the USEPA in response to these NOVs and has had several meetings with the USEPA. The Company believes it is in substantial compliance with the NSR program. The Company cannot at this time reasonably estimate what reasonable likely penalties or upgrades to equipment might ultimately be required. The Company believes that any costs related to any required upgrades will be spread over time and will not have a material adverse effect on the Company’s operations or its financial condition, but can give no assurance that the ultimate resolution of this matter will not have a material adverse effect on the financial condition or results of operations of the Magnesia Specialties segment of the business.

In October 2014, the Company received a CAA Section 114 request for information regarding the Manistee, Michigan, operations from the USEPA, similar to the one initially received at the Woodville, Ohio, plant. The letter seeks information regarding the Company’s compliance with the NSR program at the Magnesia Specialties manufacturing plant in Manistee, Michigan. No notices of violation have been received by the Company relating to alleged non-compliance at the Manistee plant. The Company believes it is in substantial compliance with the NSR program and has submitted information to the USEPA for review and is awaiting a response or additional questions. The Company cannot at this time reasonably estimate the costs, if any, that may be incurred relating to this matter.

In September 2005, the USEPA designated several entities as potentially responsible parties (“PRPs”) under the federal Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”), at the Ward Transformer Superfund site located in Raleigh, North Carolina. In April 2009, two PRPs filed separate actions in the U.S. District Court for the Eastern District of North Carolina against more than 100 other entities not designated PRPs, including the Company, seeking contribution from the defendants for expenses incurred by the plaintiffs related to work performed at a portion of the site. This group was later expanded to over 200 potential PRPs. In 2016, a global settlement was reached for past costs and clean-up of the contamination, which the Company joined for a payment of \$102,000 to the USEPA and \$1.2 million to the PRPs, a group of which will be conducting the clean-up process.

The Company has been reviewing its operations with respect to climate change matters and its sources of greenhouse gas emissions. In December 2009, the USEPA made an endangerment finding under the Clean Air Act that the current and projected concentrations of the six key greenhouse gases (“GHG” or “GHGs”) in the atmosphere threaten the public health and welfare of current and future generations. The six GHGs are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. As of 2010, facilities that emitted 25,000 metric tons or more per year of GHGs are required to annually report GHG generation to comply with the USEPA’s Mandatory Greenhouse Gas Reporting Rule. In May 2010, the

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USEPA issued a final rule (known as the Greenhouse Gas Tailoring Rule) that would have required the Company to incorporate best available GHG control technology in any new plant that it might propose to build and in its existing plants if it modified them in a manner that would increase GHG emissions (in the Company's case, principally carbon dioxide emissions) by more than 75,000 tons per year. This rule was challenged in court by various public and private parties, and was upheld in part and invalidated in part by the United States Supreme Court in an opinion issued in June 2014. The Court concluded that the USEPA may in fact require best available control technology for GHG, but only if the plant is otherwise subject to Prevention of Significant Deterioration or Title V air permitting under the USEPA's rules. It is not known whether the USEPA will revise its rules in response to the Court's decision and, if so, what the impact will be on the Company's operations. No technologies or methods of operation for reducing or capturing GHGs such as carbon dioxide have been proven successful in large scale applications other than improvements in fuel efficiency, and it is not known what the USEPA will require as best available control technology for plants or conditions it will require for operating permits in the event of modifications to plants or construction of new plants.

In Congress, both the House and Senate had considered climate change legislation, including the "cap-and-trade" approach. Cap-and-trade is an environmental policy tool that delivers results with a mandatory cap on emissions while providing sources flexibility in how they comply by trading credits with other sources whose emissions are below the cap. Another approach that had been proposed was a tax on emissions. The Company believes that climate change legislation is not a priority item in Congress in the near future and that the primary method that greenhouse gases will be regulated is through the USEPA using its rule-making authority. It is not known whether this will be a priority of the USEPA during President Trump's administration. Various states where the Company has operations are also considering climate change initiatives, and the Company may be subject to state regulations in addition to any federal laws and rules that are passed.

The operations of the Company's Aggregates business are not major sources of GHG emissions. Most of the GHG emissions from aggregates operations are tailpipe emissions from mobile sources such as heavy construction and earth-moving equipment. The manufacturing operations of the Company's Magnesia Specialties business in Woodville, Ohio, releases carbon dioxide, methane and nitrous oxide during the production of lime. The Magnesia Specialties operation in Manistee, Michigan, releases carbon dioxide, methane and nitrous oxides in the manufacture of magnesium oxide and hydroxide products. Both of these operations are filing annual reports of their GHG emissions in accordance with the USEPA's Mandatory Greenhouse Gas Reporting Rule.

Cement production worldwide is estimated to comprise approximately 5% to 10% of CO₂ or GHG emissions, and the USEPA has indicated that CO₂ emitted from cement production is the second largest source of CO₂ emissions in the United States. The Company has two cement plants. During 2016, the Company, through its TXI subsidiary, filed annual reports of the GHG emissions relating to its two cement operations in Texas.

If and when Congress passes legislation on GHGs, the Woodville and Manistee operations, as well as the Company's two cement operations, will likely be subject to the new program. In addition, any additional regulatory restrictions on emissions of GHGs imposed by the USEPA will likely impact the Company's Woodville, Manistee, and cement operations. The Company anticipates that any increased operating costs or

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taxes relating to GHG emission limitations at the Woodville or cement operations would be passed on to customers. The magnesium oxide products produced at the Manistee operation compete against other products that emit a lower level of GHGs in their production. Therefore, the Manistee facility may be required to absorb additional costs due to the regulation of GHG emissions in order to remain competitive in pricing in that market. The Company is also continuing to review the obligations of our Manistee facility's global customer base with regards to climate change treaties and accords. The Company at this time cannot reasonably predict what the costs of compliance will be, but does not believe it will have a material adverse effect on the financial condition or results of the operations of either the Magnesia Specialties or Cement businesses.

In 2010, the USEPA issued rules that dramatically reduced the permitted emissions of mercury, total hydrocarbons, particulate matter and hydrochloric acid from cement plants. The compliance date for these new standards was September 2015, but the USEPA granted various extensions to verify monitoring systems are effective for mercury and hydrogen chloride emissions. The Company has conducted tests to analyze the current level of compliance of its cement plants with the new standards. All plants required the installation of continuous emissions monitoring ("CEMs"). The Company, through its subsidiary TXI, identified and installed new control and monitoring equipment for these purposes and believes that the cement plants meet the emission requirements in these rules. The Company does not believe that the costs relating to these controls and equipment will have a material adverse effect on the financial condition or results of the operations of either the Company or the Cement business.

Employees

As of January 31, 2017, the Company has approximately 8,111 employees, of which 6,189 are hourly employees and 1,922 are salaried employees. Included among these employees are 860 hourly employees represented by labor unions (10.6% of the Company's employees). Of such amount, 9.9% of the Company's Aggregates business's hourly employees are members of a labor union, none of the Company's Cement business's hourly employees are represented by labor unions, and 100% of the Magnesia Specialties segment's hourly employees are represented by labor unions. The Company's principal union contracts for the Magnesia Specialties business cover employees at the Manistee, Michigan, magnesia-based chemicals plant and the Woodville, Ohio, lime plant. The Woodville collective bargaining agreement expires in May 2018. The Manistee collective bargaining agreement expires in August 2019. The Company believes it has good relations with all of its employees, including its unionized employees. While the Company's management does not expect significant difficulties in renewing these labor contracts, there can be no assurance that a successor agreement will be reached at any of these locations.

Available Information

The Company maintains an Internet address at www.martinmarietta.com. The Company makes available free of charge through its Internet web site its Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to those reports, if any, filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act. These reports and any amendments are accessed via the Company's web site through a link with the Electronic Data Gathering, Analysis, and Retrieval ("EDGAR") system maintained by the Securities and Exchange Commission (the "SEC") at www.sec.gov. Accordingly, the Company's referenced reports and any amendments are made available as soon as reasonably practicable after the Company electronically files such material with, or furnishes it to, the SEC, once EDGAR places such material in its database.

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The Company has adopted a *Code of Ethical Business Conduct* that applies to all of its directors, officers, and employees. The Company's code of ethics is available on the Company's web site at www.martinmarietta.com. The Company intends to disclose on its Internet web site any waivers of or amendments to its code of ethics as it applies to its directors and executive officers.

The Company has adopted a set of *Corporate Governance Guidelines* to address issues of fundamental importance relating to the corporate governance of the Company, including director qualifications and responsibilities, responsibilities of key board committees, director compensation, and similar issues. Each of the Audit Committee, the Management Development and Compensation Committee, and the Nominating and Corporate Governance Committee of the Board of Directors of the Company has adopted a written charter addressing various issues of importance relating to each committee, including the committee's purposes and responsibilities, an annual performance evaluation of each committee, and similar issues. These *Corporate Governance Guidelines*, and the charters of each of these committees, are available on the Company's web site at www.martinmarietta.com.

The Company's Chief Executive Officer and Chief Financial Officer are required to file with the SEC each quarter and each year certifications regarding the quality of the Company's public disclosure of its financial condition. The annual certifications are included as Exhibits to this Annual Report on Form 10-K. The Company's Chief Executive Officer is also required to certify to the New York Stock Exchange each year that he is not aware of any violation by the Company of the New York Stock Exchange corporate governance listing standards.

ITEM 1A. RISK FACTORS

General Risk Factors

An investment in our common stock or debt securities involves risks and uncertainties. You should consider the following factors carefully, in addition to the other information contained in this Form 10-K, before deciding to purchase or otherwise trade our securities.

This Form 10-K and other written reports and oral statements made from time to time by the Company contain statements which, to the extent they are not recitations of historical fact, constitute forward-looking statements within the meaning of federal securities law. Investors are cautioned that all forward-looking statements involve risks and uncertainties, and are based on assumptions that the Company believes in good faith are reasonable, but which may be materially different from actual results. Investors can identify these statements by the fact that they do not relate only to historic or current facts. The words "may," "will," "could," "should," "anticipate," "believe," "estimate," "expect," "forecast," "intend," "outlook," "plan," "project," "scheduled," and similar expressions in connection with future events or future operating or financial performance are intended to identify forward-looking statements. Any or all of the Company's forward-looking statements in this Form 10-K and in other publications may turn out to be wrong.

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Statements and assumptions on future revenues, income and cash flows, performance, economic trends, the outcome of litigation, regulatory compliance, and environmental remediation cost estimates are examples of forward-looking statements. Numerous factors, including potentially the risk factors described in this section, could affect our forward-looking statements and actual performance.

Investors are also cautioned that it is not possible to predict or identify all such factors. Consequently, the reader should not consider any such list to be a complete statement of all potential risks or uncertainties. Other factors besides those listed may also adversely affect the Company and may be material to the Company. The Company has listed the known material risks it considers relevant in evaluating the Company and its operations. The forward-looking statements in this document are intended to be subject to the safe harbor protection provided by Sections 27A and 21E of the Securities Exchange Act of 1934. These forward-looking statements are made as of the date hereof based on management's current expectations, and the Company does not undertake an obligation to update such statements, whether as a result of new information, future events, or otherwise.

For a discussion identifying some important factors that could cause actual results to vary materially from those anticipated in the forward-looking statements, see the factors listed below, along with the discussion of "Competition" under Item 1 of this Form 10-K, "Management's Discussion and Analysis of Financial Condition and Results of Operations" under Item 7 of this Form 10-K and the 2016 Annual Report, and "Note A: Accounting Policies" and "Note N: Commitments and Contingencies" of the "Notes to Financial Statements" of the 2016 Financial Statements included under Item 8 of this Form 10-K and the 2016 Annual Report.

Our business is cyclical and depends on activity within the construction industry.

Economic and political uncertainty can impede growth in the markets in which we operate. Demand for our products, particularly in the nonresidential and residential construction markets, could fall if companies and consumers are unable to get credit for construction projects or if an economic slowdown causes delays or cancellations of capital projects. State and federal budget issues may also hurt the funding available for infrastructure spending. The lack of available credit may limit the ability of states to issue bonds to finance construction projects. Several of our top sales generating states, from time-to-time, stop or slow bidding projects in their transportation departments.

We sell most of our aggregates products, our primary business, and our cement products, to the construction industry, so our results depend on the strength of the construction industry. Since our businesses depend on construction spending, which can be cyclical, our profits are sensitive to national, regional, and local economic conditions and the intensity of the underlying spending on aggregates and cement products. Construction spending is affected by economic conditions, changes in interest rates, demographic and population shifts, and changes in construction spending by federal, state, and local governments. If economic conditions change, a recession in the construction industry may occur and affect the demand for our products. The Great Recession was an example, and our business suffered. Construction spending can also be disrupted by terrorist activity and armed conflicts.

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While our business operations cover a wide geographic area, our earnings depend on the strength of the local economies in which we operate because of the high cost to transport our products relative to their price. If economic conditions and construction spending decline significantly in one or more areas, particularly in our top five sales-generating states of our Aggregates business (based on net sales by state of destination) of Texas, Colorado, North Carolina, Iowa, and Georgia, our profitability will decrease. We experienced this situation with the Great Recession.

The Great Recession resulted in large declines in shipments of aggregate products in our industry. Recent years, however, have shown a turnaround in this trend. For the last five years, our aggregates shipments have increased, reflecting degrees of stability and modest growth. However, volumes are still below historically normal levels. Prior to 2010, use of aggregate products in the United States had declined almost 40% from the highest volume in 2006. During 2016 our aggregates shipments showed 1.4% improvement compared with 2015 levels, after a 2.1% increase the prior year. This improvement was made in 2016 despite significant levels of rainfall in many of our major markets.

While historical spending on public infrastructure projects has been comparatively more stable as governmental appropriations and expenditures are typically less interest rate-sensitive than private sector spending, we experienced a slight retraction in aggregates shipments to this infrastructure market after uncertainty regarding the solvency of the federal highway bill in 2014. We were not able to get any certainty on the availability of federal infrastructure funding until late 2015, but the funding that was enacted had very little impact during 2016. This time lag with commencement of federal infrastructure funding was accompanied by a reduction in some states' investment in highway maintenance.

After a decade of 36 short-term funding provisions, a five-year, \$305 billion highway bill, *Fixing America's Surface Transportation Act* (the "FAST Act"), was signed into law in late 2015. The FAST Act funding is primarily secured through gas tax collections. Market analysis projects aggregate demand to increase with the availability of federal funding, with demand peaking in 2018, and thereafter declining with anticipated higher interest and inflation rates. While the FAST Act did not impact 2016 highway spending in a meaningful way, the overall highway spending in the United States did increase in 2016, showing the willingness of many states to address underlying demand for this type of spending. During the past 24 months, many states have taken on a significantly larger role in funding infrastructure investment, including initiating special-purpose taxes and raising gas taxes.

Supported by state spending programs, our aggregates shipments to the infrastructure construction market declined 4% in 2016 compared to an increase of 5% in 2015 compared with 2014. We believe that the demand and need for infrastructure projects will continue to support consistent growth in this market now that long-term federal funding has been resolved. In 2016, 39% of our product line aggregates shipments were to the infrastructure construction market.

Within the construction industry, we also sell our aggregates and cement products for use in both nonresidential construction and residential construction. Nonresidential and residential construction levels generally move with economic cycles; when the economy is strong, construction levels rise, and when the economy is weak, construction levels fall.

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In 2016, construction growth was driven by private-sector activity. Nonresidential and residential construction levels are interest rate-sensitive and typically move in direct correlation with economic cycles. The Dodge Momentum Index, a 12-month leading indicator of construction spending for nonresidential building compiled by McGraw Hill Construction and where the year 2000 serves as an index basis of 100, remained strong and was at an eight-year high of 136.7 in December 2016, a 9% increase over prior year, signaling continued growth in nonresidential construction. Housing starts, a key indicator for residential construction activity, continue to show year-over-year improvement. While starts exceeded one million in 2016, they still remain below the 50-year historical annual average of 1.5 million units. That said, the Company expects to continue to experience gains in the residential market. Importantly, 2016 housing starts exceeded completions, a trend expected to continue in 2017.

Our aggregates volumes to the nonresidential construction market accounted for 32% of our 2016 aggregates product line shipments and increased 3% compared with 2015. According to the U.S. Census Bureau, spending for the private nonresidential construction market increased 8% in 2016 compared with 2015. Historically, half of the Company's nonresidential construction shipments have been used for office and retail projects, while the remainder has been used for heavy industrial and capacity-related projects, including energy-sector projects, namely development of shale-based natural gas fields. However, low oil prices in the latter part of 2015 and throughout 2016 has suppressed shale exploration activity. In 2016, the Company shipped approximately 1.5 million tons to the energy-sector compared with approximately 3.6 million tons in 2015.

The residential construction market accounted for approximately 21% of the Company's aggregates product line shipments in 2016. The Company's exposure to residential construction is typically split evenly between aggregates used in the construction of subdivisions (including roads, sidewalks, and storm and sewage drainage) and aggregates used in new home construction. Therefore, the timing of new subdivision starts, as well as new home starts, equally affects residential volumes. Private residential construction spending increased 5% in 2016 compared with 2015, according to the U.S. Census Bureau.

Shipments of chemical rock (comprised primarily of high-calcium carbonate material used for agricultural lime and flue gas desulfurization) and ballast product sales (collectively "ChemRock/Rail") accounted for 8% of our aggregates shipments in 2016. Ballast shipments declined in 2016 due to lower railroad activity, correlating with lower energy-related rail shipments. Drier weather and favorable operating conditions led to increased shipments of agricultural limestone in 2016 over 2015. Weather conditions in 2015 were abnormally wet, limiting field applications and influencing customers to defer their purchases.

Shipments of aggregates-related downstream products typically follow construction aggregates trends.

The Cement business was acquired from TXI in 2014. Its net sales of \$364.4 million for 2016 reflected the Company's leading position in the Texas market.

Our business is dependent on funding from a combination of federal, state and local sources.

Our aggregates and cement products are used in public infrastructure projects, which include the construction, maintenance, and improvement of highways, streets, roads, bridges, schools, and similar projects.

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Accordingly, our business is dependent on the level of federal, state, and local spending on these projects. The existence of future federal infrastructure funding was resolved near the end of 2015 with the passage of the FAST Act. While the total value of United States overall public-works spending increased in 2016, federal funding through the FAST Act did not impact highway spending in any meaningful way. This increase in overall public works spending in 2016 demonstrates the commitment of states to address the underlying demand for infrastructure investment. We expect to see meaningful impact from the FAST Act funding beginning in 2017, along with increased infrastructure spending at the state level. Moreover, President Trump has proposed additional investment over the next decade to rebuild the country's infrastructure. Any such measures will require Congressional approval. We cannot be assured, however, of the existence, amount, and timing of appropriations for spending on future projects.

The federal highway bill provides annual highway funding for public-sector construction projects. The current federal highway bill passed in late 2015, the FAST Act, after a decade of 36 short-term funding provisions, reauthorizes federal highway and transportation funding programs. The FAST Act also changes the *Transportation Infrastructure and Innovation Act* ("TIFIA") funding, a federal alternative funding mechanism for transportation projects. Under the FAST Act TIFIA funding ranges from \$275 million to \$300 million, and no longer requires the 20% matching funds from state departments of transportation.

Federal highway bills provide spending authorizations that represent maximum amounts. Each year, an appropriation act is passed establishing the amount that can actually be used for particular programs. The annual funding level is generally tied to receipts of highway user taxes placed in the Highway Trust Fund. Once the annual appropriation is passed, funds are distributed to each state based on formulas (apportionments) or other procedures (allocations). Apportioned and allocated funds generally must be spent on specific programs as outlined in the federal legislation. The Highway Trust Fund has experienced shortfalls in recent years, due to high gas prices (until recently), fewer miles driven and improved automobile fuel efficiency. These shortfalls created a significant decline in federal highway funding levels. In response to the projected shortfalls, money has been transferred from the General Fund into the Highway Trust Fund over the past several years. Timely Congressional action is needed to address the funding mechanism for the Highway Trust Fund. We cannot be assured of the existence, timing or amount of federal highway funding levels in the future. We also cannot be assured of the impact of the recent sharp reduction in gasoline prices on the levels of highway user taxes that might be collected in the future and the corresponding levels of funding to the Highway Trust Fund.

At the state level, each state funds its infrastructure spending from specially allocated amounts collected from various taxes, typically gasoline taxes and vehicle fees, along with voter-approved bond programs. Shortages in state tax revenues can reduce the amounts spent on state infrastructure projects, even below amounts awarded under legislative bills. Delays in state infrastructure spending can hurt our business. Many states have experienced state-level funding pressures caused by lower tax revenues and an inability to finance approved projects. North Carolina was among the states experiencing these pressures, and this State disproportionately affects our revenues and profits. Most state budgets, including North Carolina, began to improve in 2014 and later years as increased tax revenues helped states resolve budget deficits. Prior to the FAST Act, states had also taken on a larger role in funding sustained infrastructure investment. For example, Texas voters in 2014 approved use of the State's oil and gas production tax collections for annual disbursements to the State Highway Fund. Additionally, in November 2015, voters passed Proposition 7, a constitutional

amendment that will provide for funding for non-toll roads. Proposition 7 is estimated to provide an additional \$2.0 billion of annual funding for non-toll roads beginning in fiscal 2018 and is expected to increase after 2019. On November 8, 2016, Texas voters approved \$990 million of additional statewide transportation funding, including a \$720 million transportation bond in Austin. In North Carolina, voters approved all transportation referendums during the November 2016 elections, totaling \$1.2 billion of additional funding. During the past 24 months, many states have taken on a significantly larger role in funding infrastructure investment, including initiating special-purpose taxes and raising gas taxes. We anticipate further growth in state-level funding initiatives, such as bond issues, toll roads, and special purpose taxes, as states address infrastructure needs, particularly in periods of federal funding uncertainty. Nevertheless, it is a continuing risk to our business that sufficient funding from federal, state, and local sources will not be available to address infrastructure needs.

With most states in recovery or expansion, the sustained decline in energy costs may be the catalyst in some markets to boost construction and help our business. But those markets that are heavily dependent on the energy sector, namely Oklahoma and West Virginia, may, with the decrease in oil production, experience recessions or continued recessions, which would adversely impact our business.

Our Aggregates business is seasonal and subject to the weather.

Since the heavy construction business is conducted outdoors, erratic weather patterns, seasonal changes and other weather-related conditions affect our business. Adverse weather conditions, including hurricanes and tropical storms, cold weather, snow, and heavy or sustained rainfall, reduce construction activity, restrict the demand for our products, and impede our ability to efficiently transport material. Adverse weather conditions also increase our costs and reduce our production output as a result of power loss, needed plant and equipment repairs, time required to remove water from flooded operations, and similar events. Severe drought conditions can restrict available water supplies and restrict production. The construction aggregates business production and shipment levels follow activity in the construction industry, which typically occur in the spring, summer and fall. Because of the weather's effect on the construction industry's activity, the production and shipment levels for the Company's Aggregates business, including all of its aggregates-related downstream operations, vary by quarter. The second and third quarters are generally the most profitable and the first quarter is generally the least profitable. Weather-related hindrances were exacerbated over the last two years by record precipitation in many of our key markets. The National Oceanic and Atmospheric Administration ("NOAA") has tracked precipitation for 122 years. According to NOAA, 2015 represented the wettest year on record for Texas and Oklahoma, while North Carolina, South Carolina, Colorado and Iowa each experienced a top-ten precipitation year. Our nation as a whole had its third-wettest year in NOAA recorded history in 2015. Extremely wet conditions continued in 2016 in many of our key markets, especially in Texas, with the year ranking the 18th wettest year in the state's recorded history per NOAA. Further, since March 2015, Texas and surrounding regions have experienced 18 major flood events. These weather events reduced the Company's overall profitability in 2016 and 2015, so our results for those years, or in comparison to other years, may not be indicative of our future operating results.

The Company's operations in the southeastern and Gulf Coast regions of the United States and the Bahamas are at risk for hurricane activity, most notably in August, September and October. In October 2016, rainfall along the eastern seaboard of the United States from Hurricane Matthew, a category-5 hurricane, approximated 13.6 trillion gallons. Additionally, Hurricane Matthew was the first major hurricane on record to make landfall in the Bahamas, where the Company has a facility.

Our Aggregates business depends on the availability of aggregate reserves or deposits and our ability to mine them economically.

Our challenge is to find aggregates deposits that we can mine economically, with appropriate permits, near either growing markets or long-haul transportation corridors that economically serve growing markets. As communities have grown, they have taken up attractive quarrying locations and have imposed restrictions on mining. We try to meet this challenge by identifying and permitting sites prior to economic expansion, buying more land around our existing quarries to increase our mineral reserves, developing underground mines, and developing a distribution network that transports aggregates products by various transportation methods, including rail and water, that allows us to transport our products longer distances than would normally be considered economical, but we can give no assurances that we will be successful.

Our business is a capital-intensive business.

The property and machinery needed to produce our products are very expensive. Therefore, we require large amounts of cash to operate our businesses. We believe that our cash on hand, along with our projected internal cash flows and our available financing resources, will be enough to give us the cash we need to support our anticipated operating and capital needs. Our ability to generate sufficient cash flow depends on future performance, which will be subject to general economic conditions, industry cycles and financial, business, and other factors affecting our operations, many of which are beyond our control. If we are unable to generate sufficient cash to operate our business, we may be required, among other things, to further reduce or delay planned capital or operating expenditures.

Our businesses face many competitors.

Our businesses have many competitors, some of whom are bigger and have more resources than we do. Some of our competitors also operate on a worldwide basis. Our results are affected by the number of competitors in a market, the production capacity that a particular market can accommodate, the pricing practices of other competitors, and the entry of new competitors in a market. We also face competition for some of our products from alternative products. For example, our Magnesia Specialties business may compete with other chemical products that could be used instead of our magnesia-based products. As other examples, our Aggregates business may compete with recycled asphalt and concrete products that could be used instead of new products and our Cement business may compete with international competitors who are importing product to the United States with lower production and regulatory costs.

Our businesses could be impacted by rising interest rates.

As discussed previously, our operations are highly dependent upon the interest rate-sensitive construction and steelmaking industries. Therefore, business in these industries and for us may decline if interest rates rise and costs increase.

For example, demand in the residential construction market in which we sell our aggregate products is affected by interest rates. The Federal Reserve has kept the federal funds rate near zero percent for a number of years. The recent 0.25% increase in the rate in December 2016, comparable to the 0.25% increase the previous year, represented only the second increase since 2008. However, certain Federal Reserve members have predicted they would raise interest rates three more times to at least 1.25% by the end of 2017. The residential construction market accounted for 21% of our aggregates product line shipments in 2016.

Aside from these inherent risks from within our operations, our earnings are also affected by changes in short-term interest rates. However, rising interest rates are not necessarily predictive of weaker operating results. Historically, our profitability increased during period of rising interest rates. In essence, our underlying business generally serves as a natural hedge to rising interest rates.

Rising interest rates could also result in disruptions in the credit markets, which could affect our business, as described in greater detail under “*Disruptions in the credit markets could affect our business*” below.

Our future growth may depend in part on acquiring other businesses in our industry.

We expect to continue to grow, in part, by buying other businesses. We will continue to look for strategic businesses to acquire, like our acquisition of TXI in 2014. In the past, we have made acquisitions to strengthen our existing locations, expand our operations and enter new geographic markets. We will continue to make selective acquisitions, joint ventures or other business arrangements we believe will help our company. However, the continued success of our acquisition program will depend on our ability to find and buy other attractive businesses at a reasonable price and our ability to integrate acquired businesses into our existing operations. We cannot assume there will continue to be attractive acquisition opportunities for sale at reasonable prices that we can successfully integrate into our operations.

We may decide to pay all or part of the purchase price of any future acquisition with shares of our common stock. For example, we used our common stock in our acquisition of TXI. We may also use our stock to make strategic investments in other companies to complement and expand our operations. If we use our common stock in this way, the ownership interests of our shareholders will be diluted and the price of our stock could fall. We operate our businesses with the objective of maximizing the long-term shareholder return.

Our integration of the acquisition of or business combination with other businesses may not be as successful as projected.

We have a successful history of business combinations and integration of these businesses into our heritage operations. Our largest business acquisition has been our business combination with TXI, which closed in July 2014. In 2015 we completed the integration of TXI’s operations into our own operations, which allowed

us to achieve the synergies, cost savings, and operating efficiencies we had forecasted from the TXI acquisition. In fact we completed this integration ahead of schedule and achieved even greater synergies and cost saving than the amount we originally forecasted from the TXI acquisition. However, in connection with the integration of any business that we may acquire, it is a risk factor that we will not be able to achieve such integration in a successful manner or on the time schedule we have projected or in a way that will achieve the level of synergies, cost savings, or operating efficiencies we have forecast from the acquisition.

Any other significant business acquisition or combination we might chose to do, similar to the acquisition of TXI, would require that we devote significant management attention and resources to preparing for and then integrating our business practices and operations. We believe we would be successful in this integration process. Nevertheless, we may fail to realize some of the anticipated benefits of any potential acquisition or other business combination that we might choose to pursue in the future, if the integration process takes longer than expected or is more costly than expected. Potential difficulties we may encounter in the integration process include:

- the inability to successfully combine operations in a manner that permits us to achieve the cost savings and revenue synergies anticipated to result from the proposed acquisition or business combination, which would result in the anticipated benefits of the acquisition or business combination not being realized partly or wholly in the time frame currently anticipated or at all;
- lost sales and customers as a result of certain customers of either the Company or former customers of the acquired or combined company deciding not to do business with the Company;
- complexities associated with managing the combined operations;
- integrating personnel;
- creation of uniform standards, internal controls, procedures, policies and information systems;
- potential unknown liabilities and unforeseen increased expenses, delays or regulatory issues associated with integrating the remaining operations; and
- performance shortfalls at business units as a result of the diversion of management attention caused by completing the remaining integration of the operations.

Aggregates-related downstream businesses have lower profit margins and can be more volatile.

Our ready mixed concrete and asphalt and road paving businesses typically provide lower profit margins (excluding freight and delivery revenues) than our aggregates product line due to potentially volatile input costs, highly competitive market dynamics, and lower barriers to entry. Therefore, as we expand these operations, our overall gross margin (excluding freight and delivery revenues) is likely to be adversely affected. We saw this impact our gross margin (excluding freight and delivery revenues) in recent years. Our overall aggregates-related downstream operations gross margin (excluding freight and delivery revenues) was 12% for 2016 and 8% for 2015. The overall gross margin (excluding freight and delivery revenues) of our Aggregates business will continue to be reduced by the lower gross margins (excluding freight and delivery revenues) for our aggregates-related downstream operations.

Short supplies and high costs of fuel, energy and raw materials affect our businesses.

Our businesses require a continued supply of diesel fuel, natural gas, coal, petroleum coke and other energy. The financial results of these businesses have been affected by the short supply or high costs of these fuels and energy. While we can contract for some fuels and sources of energy, such as fixed-price supply contracts for coal and petroleum coke, significant increases in costs or reduced availability of these items have and may in the future reduce our financial results. Moreover, fluctuations in the supply and costs of these fuels and energy can make planning our businesses more difficult. Because of the fluctuating trends in diesel fuel prices, we enter into fixed-price fuel agreements from time to time for a portion of our diesel fuel to reduce our diesel fuel price risk. Our last fixed-price commitment for a portion of our diesel fuel requirements expired at the end of 2016.

To illustrate how diesel fuel price fluctuations, and other energy costs, have impacted our business, consider the recent years. In 2013 the average price we paid per gallon of diesel fuel was 4% lower than we paid in 2012, but the average cost of natural gas was 18% higher than 2012. Similarly, in 2014 the average price we paid per gallon of diesel fuel was 8% lower compared to 2013, but the average cost of natural gas increased 24% from 2013. Diesel fuel, which averaged \$2.82 per gallon in 2014 and \$2.98 per gallon in 2013, represents the single largest component of energy costs for our Aggregates business. Diesel fuel prices declined rapidly during December 2014, ending the year at a per gallon price that was 26% below the 2014 average. This trend continued in 2015, as the Company's average price per gallon of diesel fuel in 2015 was \$2.05 compared with \$3.02 in 2014. Natural gas costs also declined in 2015, down 28% from the 2014 average cost. These trends continued in 2016. Average diesel fuel prices per gallon fell to \$1.96 in 2016 compared to \$2.05 in 2015. Our average diesel fuel prices for 2015 and 2016 were higher than spot market prices by \$0.30 per gallon since we purchased approximately 40% of our diesel fuel under a fixed price fuel agreement, which agreement has now expired, that had locked in a higher price at an earlier time. Natural gas costs again declined in 2016, down 25% from the 2015 average cost.

The Company has fixed price agreements for 100% of its 2017 coal needs, approximately 25% of its 2017 natural gas needs, and 50% of its 2017 petroleum coke needs.

Cement production requires large amounts of energy, including electricity and fossil fuels. Energy costs represented approximately 22% of the 2016 direct production costs of our Cement business. Therefore, the cost of energy is one of our largest expenses. Prices for energy are subject to market forces largely beyond our control and can be quite volatile. Price increases that we are unable to pass through in the form of price increases for our products, or disruption of the uninterrupted supply of fuel and electricity, could adversely affect us. Accordingly, volatility in energy costs can adversely affect the financial results of our Cement business. Profitability of the Cement business is also subject to kiln maintenance, which requires the plant to be shut down for a period of time as repairs are made. The Cement business incurred shutdown costs of \$20.9 and \$26.0 million during 2016 and 2015, respectively.

Similarly our aggregates-related downstream operations also require a continued supply of liquid asphalt and cement, which serve as key raw materials in the production of hot mix asphalt and ready mixed concrete,

respectively. Some of these raw materials we can produce internally but most are purchased from third parties. These purchased raw materials are subject to potential supply constraints and significant price fluctuations, which are beyond our control. The financial results of our aggregates-related downstream operations have been affected by the short supply or high costs of these raw materials. We generally see frequent volatility in the costs for these raw materials. For 2014, we saw higher prices for these raw materials than 2013. This trend reversed in 2015, when we saw lower prices for these raw materials than 2014. Liquid asphalt prices in 2016 were again lower than in 2015. Liquid asphalt prices may not always follow other energy products (e.g., oil or diesel fuel) because of complexities in the refining process which converts a barrel of oil into other fuels and petrochemical products.

Cement is a commodity sensitive to supply and price volatility.

Cement is a commodity, and competition is often based mainly on price, which is highly sensitive to changes in supply and demand. Prices fluctuate significantly in response to relatively minor changes in supply and demand, general economic conditions and other market conditions, which we cannot control. When cement producers increase production capacity or more cement is imported into the market, an oversupply of cement in the market may occur if supply exceeds demand. In that case cement prices generally fall. We cannot be assured that prices for our cement products sold will not decline in the future or that such decline will not have a material adverse effect on our Cement business.

Unexpected equipment failures, catastrophic events and scheduled maintenance may lead to production curtailments or shutdowns.

Our manufacturing processes are dependent upon critical pieces of equipment, such as our kilns and finishing mills. This equipment, on occasion, may be out of service as a result of unanticipated failures or damage during accidents. In addition to equipment failures, our facilities are also subject to the risk of catastrophic loss due to unanticipated events such as fires, explosions or violent weather conditions. We have one to two-week scheduled outages at least once a year to refurbish our cement and dolomitic lime production facilities. In 2016, the Cement business incurred shutdown costs of \$20.9 million during the year. In 2016, the Magnesia Specialties business incurred shutdown costs of \$4.5 million during the year. Any significant interruption in production capability may require us to make significant capital expenditures to remedy problems or damage as well as cause us to lose revenue due to lost production time.

Our Cement and Magnesia Specialties businesses may become capacity constrained.

If our Cement or Magnesia Specialties businesses become capacity constrained, they may be unable to satisfy on a timely basis the demand for some of their products, and any resulting changes in customers would introduce volatility to the earnings of these segments. We can address capacity needs by enhancing our manufacturing productivity, increasing the operational availability of equipment, reducing machinery down time and extending machinery useful life. Future demand for our products may require us to expand further our manufacturing capacity, particularly through the purchase of additional manufacturing equipment. However, we may not be able to increase our capacity in time to satisfy increases in demand that may occur from time to time. Capacity constraints may prevent us from satisfying customer orders and result in a loss of sales to competitors that are not capacity constrained. In addition, we may suffer excess capacity if we increase our capacity to meet actual or anticipated demand and that demand decreases or does not materialize.

Our Cement business could suffer if cement imports from other countries significantly increase or are sold in the U.S. in violation of U.S. fair trade laws.

The cement industry has in the past obtained antidumping orders imposing duties on imports of cement and clinker from other countries that violated U.S. fair trade laws. Currently, an antidumping order against cement and clinker from Japan is set to expire but is under review for extension by the Federal Trade Commission. As has always been the case, cement operators with import facilities can purchase cement from other countries, such as those in Latin America and Asia, which could compete with domestic producers. In addition, if environmental regulations increase the costs of domestic producers compared to foreign producers that are not subject to similar regulations, imported cement could achieve a significant cost advantage over domestically produced cement. An influx of cement or clinker products from countries not subject to antidumping orders, or sales of imported cement or clinker in violation of U.S. fair trade laws, could adversely affect our cement business.

Road paving construction operations present additional risks to our business.

Our aggregates-related downstream operations also present challenges in the paving construction business where many of our contracts have penalties for late completion. In some instances, including many of our fixed price contracts, we guarantee that we will complete a project by a certain date. If we subsequently fail to complete the project as scheduled we may be held responsible for costs resulting from the delay, generally in the form of contractually agreed-upon liquidated damages. Under these circumstances, the total project cost could exceed our original estimate, and we could experience a loss of profit or a loss on the project. In our road paving construction operations, we also have fixed price and fixed unit price contracts where our profits can be adversely affected by a number of factors beyond our control, which can cause our actual costs to materially exceed the costs estimated at the time of our original bid. These same issues and risks can also impact some of our contracts in our asphalt and ready mixed concrete operations. These risks are somewhat mitigated by the fact that a majority of our road paving contracts are for short duration projects.

Changes in legal requirements and governmental policies concerning zoning, land use, the environment, and other areas of the law, and litigation relating to these matters, affect our businesses. Our operations expose us to the risk of material environmental liabilities.

Many federal, state and local laws and regulations relating to zoning, land use, the environment, health, safety and other regulatory matters govern our operations. We take great pride in our operations and try to remain in strict compliance at all times with all applicable laws and regulations. Despite our extensive compliance efforts, risk of liabilities, particularly environmental liabilities, is inherent in the operation of our businesses, as it is with our competitors. We cannot assume that these liabilities will not negatively affect us in the future.

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We are also subject to future events, including changes in existing laws or regulations or enforcement policies, or further investigation or evaluation of the potential health hazards of some of our products or business activities, which may result in additional compliance and other costs. We could be forced to invest in preventive or remedial action, like pollution control facilities, which could be substantial.

Our operations are subject to manufacturing, operating, and handling risks associated with the products we produce and the products we use in our operations, including the related storage and transportation of raw materials, products, hazardous substances, and wastes. We are exposed to hazards including storage tank leaks, explosions, discharges or releases of hazardous substances, exposure to dust, and the operation of mobile equipment and manufacturing machinery.

These risks can subject us to potentially significant liabilities relating to personal injury or death, or property damage, and may result in civil or criminal penalties, which could hurt our productivity or profitability. For example, from time to time we investigate and remediate environmental contamination relating to our prior or current operations, as well as operations we have acquired from others, and in some cases we have been or could be named as a defendant in litigation brought by governmental agencies or private parties.

We are involved from time to time in litigation and claims arising from our operations. While we do not believe the outcome of pending or threatened litigation will have a material adverse effect on our operations or our financial condition, we cannot assume that an adverse outcome in a pending or future legal action would not negatively affect us.

Labor disputes could disrupt operations of our businesses.

Labor unions represent 9.9% of the hourly employees of our Aggregates business, none of the hourly employees of our Cement business, and 100% of the hourly employees of our Magnesia Specialties business. Our collective bargaining agreements for employees of our Magnesia Specialties business at the Manistee, Michigan magnesia chemicals plant and the Woodville, Ohio, lime plant expire in August 2019 and May 2018, respectively.

Disputes with our trade unions, or the inability to renew our labor agreements, could lead to strikes or other actions that could disrupt our businesses, raise costs, and reduce revenues and earnings from the affected locations.

Delays or interruptions in shipping products of our businesses could affect our operations.

Transportation logistics play an important role in allowing us to supply products to our customers, whether by truck, rail or ship. We also rely heavily on third-party truck and rail transportation to ship coal, natural gas and other fuels to our plants. Any significant delays, disruptions, or the non-availability of our transportation support system could negatively affect our operations. Transportation operations are subject to

capacity constraints, high fuel costs and various hazards, including extreme weather conditions and slowdowns due to labor strikes and other work stoppages. In Texas, we compete for third-party trucking services with operations in the oil and gas fields, which can significantly constrain the availability of those services to us. If there are material changes in the availability or cost of transportation services, we may not be able to arrange alternative and timely means to ship our products or fuels at a reasonable cost, which could lead to interruptions or slowdowns in our businesses or increases in our costs.

The availability of rail cars can also affect our ability to transport our products. Rail cars can be used to transport many different types of products across all of our segments. If owners sell or lease rail cars for use in other industries, we may not have enough rail cars to transport our products.

We have long-term agreements with shipping companies to provide ships to transport our aggregates products from our Bahamas and Nova Scotia operations to various coastal ports. These contracts have varying expiration dates ranging from 2017 to 2027 and generally contain renewal options. Our inability to renew these agreements or enter into new ones with other shipping companies could affect our ability to transport our products.

When we sold our River District operations in 2011 as part of our asset exchange with Lafarge, we sold most of our barge long-haul distribution network. As a result, we reduced our risks from distributing our products by barges, especially along the Mississippi River. We still distribute some of our product by barge along rivers in West Virginia. We may continue to experience, to a lesser degree, risks associated with distributing our products by barges, including significant delays, disruptions or the non-availability of our barge transportation system that could negatively affect our operations, water levels that could affect our ability to transport our products by barge, and barges that may not be available in quantities that we might need from time to time to support our operations.

Our earnings are affected by the application of accounting standards and our critical accounting policies, which involve subjective judgments and estimates by our management. Our estimates and assumptions could be wrong.

The accounting standards we use in preparing our financial statements are often complex and require that we make significant estimates and assumptions in interpreting and applying those standards. We make critical estimates and assumptions involving accounting matters including our goodwill impairment testing, our expenses and cash requirements for our pension plans, our estimated income taxes, and how we account for our property, plant and equipment, and inventory. These estimates and assumptions involve matters that are inherently uncertain and require our subjective and complex judgments. If we used different estimates and assumptions or used different ways to determine these estimates, our financial results could differ.

While we believe our estimates and assumptions are appropriate, we could be wrong. Accordingly, our financial results could be different, either higher or lower. We urge you to read about our critical accounting policies in our Management's Discussion and Analysis of Financial Condition and Results of Operations.

The adoption of new accounting standards may affect our financial results.

The accounting standards we apply in preparing our financial statements are reviewed by regulatory bodies and are changed from time to time. New or revised accounting standards could, either positively or negatively, affect results reported for periods after adoption of the standards as compared to the prior periods, or require retrospective application changing results reported for prior periods. We urge you to read about our accounting policies in Note A of our 2016 Financial Statements.

The *Sarbanes-Oxley Act of 2002*, and other related rules and regulations, have increased the scope, complexity, and cost of corporate governance. Reports from the Public Company Accounting Oversight Board's ("PCAOB") inspections of public accounting firms continue to outline findings and recommendations which could require these firms to perform additional work as part of their financial statement audits. The Company's costs to respond to these additional requirements may increase.

We depend on the recruitment and retention of qualified personnel, and our failure to attract and retain such personnel could affect our business.

Our success depends to a significant degree upon the continued services of our key personnel and executive officers. Our prospects depend upon our ability to attract and retain qualified personnel for our operations. Competition for personnel is intense, and we may not be successful in attracting or retaining qualified personnel, which could negatively affect our business.

Disruptions in the credit markets could affect our business.

We have considered the current economic environment and its potential impact to the Company's business. Demand for aggregates products, particularly in the infrastructure construction market, has already been negatively affected by federal and state budget and deficit issues and the uncertainty over future highway funding levels, until the recent enactment of a new federal highway bill. Further, delays or cancellations to capital projects in the nonresidential and residential construction markets could occur if companies and consumers are unable to obtain financing for construction projects or if consumer confidence continues to be eroded by economic uncertainty.

A recessionary construction economy can also increase the likelihood we will not be able to collect on all of our accounts receivable with our customers. We are protected in part, however, by payment bonds posted by many of our customers or end-users. Nevertheless, we experienced a delay in payment from some of our customers during the construction downturn, which can negatively affect operating cash flows. Historically, our bad debt write-offs have not been significant to our operating results, and, although the amount of our bad debt write-offs has increased, we believe our allowance for doubtful accounts is adequate.

The credit environment could impact the Company's ability to borrow money in the future. Additional financing or refinancing might not be available and, if available, may not be at economically favorable terms. Further, an increase in leverage could lead to deterioration in our credit ratings. A reduction in our credit ratings, regardless of the cause, could also limit our ability to obtain additional financing and/or increase our cost of obtaining financing. There is no guarantee we will be able to access the capital markets at financially economical interest rates, which could negatively affect our business.

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We may be required to obtain financing in order to fund certain strategic acquisitions, if they arise, or to refinance our outstanding debt. Any large strategic acquisition would require that we issue both newly issued equity and debt securities, like we did with the acquisition of TXI, in order to maintain our investment grade credit rating and could result in a ratings downgrade notwithstanding our issuance of equity securities to fund the transaction. We are also exposed to risks from tightening credit markets, through the interest payable on our outstanding debt and the interest cost on our commercial paper program, to the extent it is available to us. While management believes our credit ratings will remain at a composite investment-grade level, we cannot be assured these ratings will remain at those levels. While management believes the Company will continue to have credit available to it adequate to meet its needs, there can be no assurance of that.

Our Magnesia Specialties business depends in part on the steel industry and the supply of reasonably priced fuels.

Our Magnesia Specialties business sells some of its products to companies in the steel industry. While we have reduced this risk over the last few years, this business is still dependent, in part, on the strength of the cyclical steel industry. The Magnesia Specialties business also requires significant amounts of natural gas, coal, and petroleum coke, and financial results are negatively affected by increases in fuel prices or shortages.

Our Magnesia Specialties business faces currency risks from its overseas operations.

Our Magnesia Specialties business sells some of its products to companies located outside the United States. Approximately 18% of the revenues of the Magnesia Specialties business in 2016 were from foreign jurisdictions, principally Canada, Mexico, Europe, South America and the Pacific Rim, but no single foreign country accounted for 10% or more of the revenues of the business. Therefore the operations of the Magnesia Specialties business are affected from time to time by the fluctuating values of the currency exchange rates of the countries in which it does business in relation to the value of the U.S. Dollar. The business tries to mitigate the short-term effects of currency exchange rates by primarily denominating sales in the U.S. Dollar. This still leaves the business subject to certain risks, depending on the strength of the U.S. Dollar. In 2016, the strength of the U.S. Dollar in foreign markets negatively affected the overall price of the products of the Magnesia Specialties business when compared to foreign-domiciled competitors.

Our acquisitions could harm our results of operations.

In pursuing our business strategy, we conduct discussions, evaluate opportunities and enter into acquisition agreements. Acquisitions involve significant challenges and risks, including risks that:

- We may not realize a satisfactory return on the investment we make;
- We may not be able to retain key personnel of the acquired business;
- We may experience difficulty in integrating new employees, business systems and technology;
- Our due diligence process may not identify compliance issues or other liabilities that are in existence at the time of our acquisition;

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- We may have difficulty entering into new geographic markets in which we are not experienced; or
- We may be unable to retain the customers and partners of acquired businesses following the acquisition.

Our articles of incorporation and bylaws and North Carolina law may inhibit a change in control that you may favor.

Our restated articles of incorporation and restated bylaws and North Carolina law contain provisions that may delay, deter or inhibit a future acquisition of us not approved by our Board of Directors. This could occur even if our shareholders are offered an attractive value for their shares or if many or even a majority of our shareholders believe the takeover is in their best interest. These provisions are intended to encourage any person interested in acquiring us to negotiate with and obtain the approval of our Board of Directors in connection with the transaction. Provisions that could delay, deter, or inhibit a future acquisition include the following:

- the ability of the Board of Directors to establish the terms of, and issue, preferred stock without shareholder approval;
- the requirement that our shareholders may only remove directors for cause;
- the inability of shareholders to call special meetings of shareholders; and
- super majority shareholder approval requirements for business combination transactions with certain five percent shareholders.

Additionally, the occurrence of certain change of control events could result in an event of default under certain of our existing or future debt instruments.

Changes in our effective income tax rate may harm our results of operations.

A number of factors may increase our future effective income tax rate, including:

- Governmental authorities increasing taxes or eliminating deductions, particularly the depletion deduction;
- The jurisdictions in which earnings are taxed;
- The resolution of issues arising from tax audits with various tax authorities;
- Changes in the valuation of our deferred tax assets and liabilities;

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- Adjustments to estimated taxes upon finalization of various tax returns;
- Changes in available tax credits;
- Changes in stock-based compensation;
- Other changes in tax laws, and
- The interpretation of tax laws and/or administrative practices.

Any significant increase in our future effective income tax rate could reduce net earnings and free cash flow for future periods.

Currently, the U.S. Congress is considering changes in the corporate tax code that, if enacted, could affect our net earnings. While the current expectation is a reduction in corporate tax rates, which should favorably affect net earnings, we cannot be certain of the impact of the elimination of tax preferences, capital investment deductibility or border adjustments, among other considerations. Based on our current assessment, a reduction in corporate tax rates to 25% (from 35%) and the elimination of all current deductions, including the statutory percentage depletion deduction, would be neutral to both net earnings and free cash flow. However, this assessment will change depending on the ultimate nature, extent and/or timing of any tax code changes, if any.

We are dependent on information technology and our systems and infrastructure face certain risks, including cybersecurity risks and data leakage risks.

We are dependent on information technology systems and infrastructure. Any significant breakdown, invasion, destruction or interruption of these systems by employees, others with authorized access to our systems, or unauthorized persons could negatively impact operations. There is also a risk that we could experience a business interruption, theft of information or reputational damage as a result of a cyber-attack, such as an infiltration of a data center, or data leakage of confidential information either internally or at our third-party providers. While we have invested in the protection of our data and information technology to reduce these risks and routinely test the security of our information systems network, there can be no assurance that our efforts will prevent breakdowns or breaches in our systems that could adversely affect our business.

ITEM 1B. UNRESOLVED STAFF COMMENTS

There are no unresolved written comments that were received from the staff of the SEC one hundred and eighty (180) days or more before the end of our fiscal year relating to our periodic or current reports under the Securities Exchange Act of 1934.

ITEM 2. PROPERTIES

Aggregates Business

As of December 31, 2016, the Company processed or shipped aggregates from 276 quarries, underground mines, and distribution yards in 29 states, Canada, and the Bahamas, of which 108 are located on land owned by the Company free of major encumbrances, 58 are on land owned in part and leased in part, 103 are on leased land, and seven are on facilities neither owned nor leased, where raw materials are removed under an agreement. The Company's aggregates reserves, on the average, exceed 60 years based on normalized levels of production, and approximate 100 years at current production rates. However, certain locations may be subject to more limited reserves and may not be able to expand. In addition, as of December 31, 2016, the Company processed and shipped ready mixed concrete and/or asphalt products from 158 properties in five states, of which 127 are located on land owned by the Company free of major encumbrances, one is on land owned in part and leased in part, 29 are on leased land, and one is on a facility neither owned or leased, where product is sold under an agreement.

The Company uses various drilling methods, depending on the type of aggregate, to estimate aggregates reserves that are economically mineable. The extent of drilling varies and depends on whether the location is a potential new site (greensite), an existing location, or a potential acquisition. More extensive drilling is performed for potential greensites and acquisitions, and in rare cases, the Company may rely on existing geological data or results of prior drilling by third parties. Subsequent to drilling, selected core samples are tested for soundness, abrasion resistance, and other physical properties relevant to the aggregates industry. If the reserves meet the Company's standards and are economically mineable, then they are either leased or purchased.

The Company estimates proven and probable reserves based on the results of drilling. Proven reserves are reserves of deposits designated using closely spaced drill data, and based on that data the reserves are believed to be relatively homogenous. Proven reserves have a certainty of 85% to 90%. Probable reserves are reserves that are inferred utilizing fewer drill holes and/or assumptions about the economically mineable reserves based on local geology or drill results from adjacent properties. The degree of certainty for probable reserves is 70% to 75%. In determining the amount of reserves, the Company's policy is to not include calculations that exceed certain depths, so for deposits, such as granite, that typically continue to depths well below the ground, there may be additional deposits that are not included in the reserve calculations. The Company also deducts reserves not available due to property boundaries, set-backs, and plant configurations, as deemed appropriate when estimating reserves. The Company uses the same methods of analysis to evaluate and estimate the amount of its aggregates reserves used in the cement manufacturing process for its Cement business as it does for its Aggregates business. For additional information on the Company's assessment of reserves, see "Management's Discussion and Analysis of Financial Condition and Results of Operations – Other Financial Information - Critical Accounting Policies and Estimates- Property, Plant and Equipment" under Item 7 of this Form 10-K and the 2016 Annual Report for discussion of reserves evaluation by the Company.

Set forth in the tables below are the Company's estimates of reserves of recoverable aggregates of suitable quality for economic extraction, shown on a state-by-state basis, and the Company's total annual production for the last three years, along with the Company's estimate of years of production available, shown on a segment-by-segment basis. The number of producing quarries shown on the table includes underground

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mines. The Company's reserve estimates for the last two years are shown for comparison purposes on a state-by-state basis. The changes in reserve estimates at a particular state level from year to year reflect the tonnages of reserves on locations that have been opened or closed during the year, whether by acquisition, disposition, or otherwise; production and sales in the normal course of business; additional reserve estimates or refinements of the Company's existing reserve estimates; opening of additional reserves at existing locations; the depletion of reserves at existing locations; and other factors. The Company evaluates its reserve estimates primarily on a Company-wide, or segment-by-segment basis, and does not believe comparisons of changes in reserve estimates on a state-by-state basis from year to year are particularly meaningful. The Company's estimate of reserves shown in the tables below include reserves used in the Company's Cement and Magnesia Specialties businesses.

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State	Number of Producing Quarries	Tonnage of Reserves for each general type of aggregate at 12/31/15 (Add 000)		Tonnage of Reserves for each general type of aggregate at 12/31/16 (Add 000)		Change in Tonnage from 2015 (Add 000)		Percentage of aggregate reserves located at an existing quarry, and reserves not located at an existing quarry.		Percentage of aggregate reserves on land that has not been zoned for quarrying.* **	Percent of reserves owned and percent leased	
		2016	Hard Rock	S & G	Hard Rock	S & G	Hard Rock	S & G	At Quarry	Not at Quarry	0%	Owned
Alabama	4	128,775	12,110	127,485	11,623	(1,290)	(487)	100%	0%	0%	14%	86%
Arkansas	3	223,382		218,333	0	(5,049)	0	100%	0%	0%	49%	51%
California	0			0	0	0	0					
Colorado	10	139,872	65,698	754,369	103,346	614,497	37,648	99%	1%	0%	23%	77%
Florida	1	208,805		123,892	0	(84,913)	0	100%	0%	0%	35%	65%
Georgia	15	2,154,134		2,078,744	0	(75,390)	0	60%	40%	0%	86%	14%
Indiana	10	496,257	51,030	491,197	48,814	(5,060)	(2,216)	100%	0%	0%	38%	62%
Iowa	28	761,927	20,495	750,749	18,811	(11,178)	(1,684)	100%	0%	0%	29%	71%
Kansas	4	80,757		79,250	0	(1,507)	0	100%	0%	8%	36%	64%
Kentucky	1		24,891	0	24,891	0	0	100%	0%	0%	100%	0%
Louisiana	3		9,091	0	8,545	0	(546)	100%	0%	0%	0%	100%
Maryland	2	133,980		121,757	0	(12,223)	0	100%	0%	0%	100%	0%
Minnesota	2	328,352		325,774	0	(2,578)	0	68%	32%	0%	63%	37%
Mississippi	0		67,238	0	67,238	0	0	100%	0%	0%	100%	0%
Missouri	4	412,034		374,160	0	(37,874)	0	88%	12%	0%	18%	82%
Montana	0	48,807		0	0	(48,807)	0			0%		
Nebraska	4	181,196		176,446	0	(4,750)	0	100%	0%	0%	52%	48%
Nevada	1	136,871		136,189	0	(682)	0	100%	0%	0%	91%	9%
North Carolina	36	3,491,412		3,354,993	2,500	(136,419)	2,500	77%	23%	0%	71%	29%
Ohio ***	10	558,169	128,998	564,657	124,919	6,488	(4,079)	47%	53%	0%	97%	3%
Oklahoma	9	1,226,101	13,534	1,213,986	13,101	(12,115)	(433)	100%	0%	0%	86%	14%
South Carolina	6	513,002	28,746	702,995	28,123	189,993	(623)	96%	4%	0%	43%	57%
Tennessee	1	35,938		35,483	0	(455)	0	100%	0%	0%	100%	0%
Texas ****	25	2,305,251	141,872	2,465,161	145,089	159,910	3,217	100%	0%	0%	60%	40%
Utah	1	23,888		23,636	0	(252)	0	100%	0%	0%	0%	100%
Virginia	4	344,298		357,068	0	12,770	0	100%	0%	0%	57%	43%
Washington	1	22,051		21,780	0	(271)	0	32%	68%	0%	68%	32%
West Virginia	1	44,718		44,087	0	(631)	0	41%	59%	0%	86%	14%
Wyoming	2	159,866		156,943	0	(2,923)	0	100%	0%	0%	41%	59%
U. S. Total	188	14,159,843	563,703	14,699,134	597,001	539,291	33,298	86%	14%	0%	63%	37%
Non-U. S.	2	861,420	0	855,364	0	(6,056)	0	100%	0%	0%	100%	0%
Grand Total	190	15,021,263	563,703	15,554,498	597,001	533,235	33,298					

* The Company calculates its aggregate reserves for purposes of this table based on land that has been zoned for quarrying and land for which the Company has determined zoning is not required.

** The Company may own additional land adjacent or near existing quarries on which reserves may be located but does not include such reserves in these calculations if zoning is required but has not been obtained.

*** The Company's reserves presented in the State of Ohio include dolomitic limestone reserves used in the business of the Magnesite Specialties segment.

**** The Company's reserves presented in the State of Texas include limestone reserves used in the business of the Cement segment.

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Reportable Segment*	Total Annual Production (in tons) (add 000)			Number of years of production available at December 31, 2016
	For year ended December 31			
	2016	2015	2014	
Mid-America Group	67,431	62,846	59,785	107.4
Southeast Group	20,468	21,148	18,932	161.2
West Group	75,421	69,223	62,579	74.4
Total Aggregates Business	163,320	153,217	141,296	98.9

* Prior year segment information has been reclassified to conform to the presentation of the Company's current reportable segments.

Cement Business

As of December 31, 2016, the Company, through its subsidiaries, processed or shipped cement from six properties in one state, of which four are located on land owned by the Company free of major encumbrances and two are on leased land. The Company's Cement business has production facilities located at two sites in Texas: Midlothian, Texas, south of Dallas/Fort Worth; Hunter, Texas, north of San Antonio. The following table summarizes certain information about the Company's cement manufacturing facilities at December 31, 2016:

Plant	Rated Annual Productive Capacity-Tons of Clinker	Manufacturing Process	Service Date	Internally Estimated Minimum Reserves—Years
Midlothian, TX	2,200,000	Dry	2001	52
Hunter, TX	2,250,000	Dry	2013 and 1981	140
Total	4,450,000			

Reserves identified with the facilities shown above are contained on approximately 2,844 acres of land owned by the Company. As of December 31, 2016, the Company estimated its total proven and probable limestone reserves on such land to be approximately 697 million tons.

The Company's cement manufacturing facilities include kilns, crushers, pre-heaters/calciners, coolers, finish mills and other equipment used to process limestone and other raw materials into cement, as well as equipment used to extract and transport the limestone from the adjacent quarries. These cement manufacturing facilities are served by rail and truck.

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As of December 31, 2016, the Company, through its subsidiaries, also operated five cement distribution terminals and owned the real estate at the California cement grinding and packaging facility it sold on September 30, 2015, which it expects to sell for non-cement use.

Magnesia Specialties Business

The Magnesia Specialties business currently operates major manufacturing facilities in Manistee, Michigan, and Woodville, Ohio. Both of these facilities are owned.

Other Properties

The Company's principal corporate office, which it owns, is located in Raleigh, North Carolina. The Company owns and leases various administrative offices for its five reportable business segments.

Condition and Utilization

The Company's principal properties, which are of varying ages and are of different construction types, are believed to be generally in good condition, are generally well maintained, and are generally suitable and adequate for the purposes for which they are used.

During 2016, the principal properties of the Aggregates business were believed to be utilized at average productive capacities of approximately 65% and were capable of supporting a higher level of market demand. However, during the economic recession, the Company adjusted its production schedules to meet reduced demand for its products. For example, the Company has reduced operating hours at a number of its facilities, closed some of its facilities, and temporarily idled some of its facilities. In 2016, the Company's Aggregates business operated at a level significantly below capacity, which restricted the Company's ability to capitalize \$71.3 million of costs that could have been inventoried under normal operating conditions. If demand does not improve over the near term, such reductions and temporary idling could continue. The Company expects, however, as the economy continues to recover, it will be able to resume production at its normalized levels and increase production again as demand for its products increases.

During 2016 the Texas cement plants were operating on average at 76 percent utilization. The Company divested of the California cement plant in 2015. The Portland Cement Association ("PCA") forecasts a 3% increase in demand in Texas in 2017 over 2016. The Cement business' leadership, in collaboration with the aggregates and ready mixed concrete teams, have developed strategic plans regarding interplant efficiencies, as well as tactical plans addressing plant utilization and efficiency. Due to the 24/7/365 nature of cement operations, significant gains in plant utilization and efficiency are typically achieved only during plant shutdowns.

The Company expects future organic earnings growth to result from increased pricing, rationalization of the current product portfolio and/or further cost reductions. In the current operating environment where steel utilization is at levels close to or below 70% and the strength of the United States dollar pressures product competitiveness in international markets, any unplanned change in costs or customers introduces volatility to the earnings of the Magnesia Specialties segment.

ITEM 3. LEGAL PROCEEDINGS

From time to time claims of various types are asserted against the Company arising out of its operations in the normal course of business, including claims relating to land use and permits, safety, health, and environmental matters (such as noise abatement, blasting, vibrations, air emissions, and water discharges). Such matters are subject to many uncertainties, and it is not possible to determine the probable outcome of, or the amount of liability, if any, from, these matters. In the opinion of management of the Company (which opinion is based in part upon consideration of the opinion of counsel), based upon currently-available facts, it is remote that the ultimate outcome of any litigation and other proceedings will have a material adverse effect on the overall results of the Company's operations, its cash flows, or its financial condition. However, there can be no assurance that an adverse outcome in any of such litigation would not have a material adverse effect on the Company or its operating segments.

The Company was not required to pay any penalties in 2016 for failure to disclose certain "reportable transactions" under Section 6707A of the Internal Revenue Code.

See also "Note N: Commitments and Contingencies" of the "Notes to Financial Statements" of the 2016 Financial Statements included under Item 8 of this Form 10-K and the 2016 Annual Report and "Management's Discussion and Analysis of Financial Condition and Results of Operations - Environmental Regulation and Litigation" under Item 7 of this Form 10-K and the 2016 Annual Report.

ITEM 4. MINE SAFETY DISCLOSURES

The information concerning mine safety violations or other regulatory matters required by Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act and Item 104 of Regulation S-K (17 CFR 229.104) is included in Exhibit 95 to this Annual Report on Form 10-K.

EXECUTIVE OFFICERS OF THE REGISTRANT

The following sets forth certain information regarding the executive officers of Martin Marietta Materials, Inc. as of February 10, 2017:

<u>Name</u>	<u>Age</u>	<u>Present Position</u>	<u>Year Assumed Present Position</u>	<u>Other Positions and Other Business Experience Within the Last Five Years</u>
C. Howard Nye	54	Chairman of the Board; Chief Executive Officer; President; President of Aggregates Business; Chairman of Magnesia Specialties Business	2014 2010 2006 2010 2007	
Anne H. Lloyd	55	Executive Vice President; Chief Financial Officer	2009 2005	Treasurer (2006-2013)
Roselyn R. Bar	58	Executive Vice President; General Counsel; Corporate Secretary	2015 2001 1997	Senior Vice President (2005-2015)
Dana F. Guzzo	51	Senior Vice President; Chief Accounting Officer; Controller	2011 2006 2005	Chief Information Officer (2011-2015)
Donald A. McCunniff	59	Senior Vice President, Human Resources	2011	
Daniel L. Grant	62	Senior Vice President, Strategy & Development	2013	Senior Vice President, Strategy & Development, Lehigh Hanson, Inc., a producer of construction materials, and a subsidiary of Heidelberg Cement (1995- 2013)

PART II**ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES*****Market Information, Holders, and Dividends***

The Company's Common Stock, \$.01 par value, is traded on the New York Stock Exchange ("NYSE") (Symbol: MLM). Information concerning stock prices and dividends paid is included under the caption "Quarterly Performance (Unaudited)" of the 2016 Annual Report, and that information is incorporated herein by reference. There were 984 holders of record of the Company's Common Stock as of February 10, 2017.

Recent Sales of Unregistered Securities

None.

Issuer Purchases of Equity Securities

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (1)	Maximum Number of Shares that May Yet be Purchased Under the Plans or Programs
October 1, 2016 – October 31, 2016	0	\$ —	0	15,470,959
November 1, 2016 – November 30, 2016	323,661	\$ 199.85	323,661	15,147,298
December 1, 2016 – December 31, 2016	20,665	\$ 219.88	20,665	15,126,633
Total	344,326	\$ 201.05	344,326	15,126,633

- (1) The Company's stock repurchase program, which currently authorizes the repurchase of 20 million shares of common stock, is approved by the Company's Board of Directors from time to time, and updated as appropriate by the Board, and announced to the public by press release. The latest announcement on this topic was the Company's press release dated February 10, 2015 that its Board of Directors had authorized the repurchase of up to 20 million shares of its outstanding common stock, which included 5 million shares authorized under the Company's previous share repurchase program. Previous press releases announcing prior share repurchase programs and the related amounts of common stock included under the share repurchase authorizations were as follows: (i) press release dated August 15, 2007 (5 million shares); (ii) press release dated February 22, 2006 (5 million shares); and (iii) May 6, 1994 (2.5 million shares).

ITEM 6. SELECTED FINANCIAL DATA

The information required in response to this Item 6 is included under the caption "Five Year Summary" of the 2016 Annual Report, and that information is incorporated herein by reference.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The information required in response to this Item 7 is included under the caption "Management's Discussion and Analysis of Financial Condition and Results of Operations" in the 2016 Annual Report, and that information is incorporated herein by reference, except that the information contained under the caption "Management's Discussion and Analysis of Financial Condition and Results of Operations—Outlook 2017" in the 2016 Annual Report is not incorporated herein by reference.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The information required in response to this Item 7A is included under the caption “Management’s Discussion and Analysis of Financial Condition and Results of Operations-Quantitative and Qualitative Disclosures About Market Risk” of the 2016 Annual Report, and that information is incorporated herein by reference.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The information required in response to this Item 8 is included under the caption “Consolidated Statements of Earnings,” “Consolidated Statements of Comprehensive Earnings,” “Consolidated Balance Sheets,” “Consolidated Statements of Cash Flows,” “Consolidated Statements of Total Equity,” “Notes to Financial Statements,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and “Quarterly Performance (Unaudited)” of the 2016 Annual Report, and that information is incorporated herein by reference, except that the information contained under the caption “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Outlook 2017” in the 2016 Annual Report is not incorporated herein by reference.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

As of December 31, 2016, an evaluation was performed under the supervision and with the participation of the Company’s management, including the Chief Executive Officer (“CEO”) and Chief Financial Officer (“CFO”), of the effectiveness of the design and operation of the Company’s disclosure controls and procedures. Based on that evaluation, the Company’s CEO and CFO concluded that the Company’s disclosure controls and procedures were effective at the reasonable assurance level.

The foregoing evaluation of the Company’s disclosure controls and procedures was based on the definition in Exchange Act Rule 13a-15(e), which requires that disclosure controls and procedures are effectively designed to provide reasonable assurance that information required to be disclosed by an issuer in the reports that it files or submits with the SEC under the Exchange Act is recorded, processed, summarized, and reported, within the time periods specified in the SEC’s rules and forms, and is accumulated and communicated to the issuer’s management, including its principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure.

Management's Report on Internal Control over Financial Reporting

Our management's report on internal control over financial reporting is included under Item 8 of this Annual Report on Form 10K and is incorporated by reference. The Company's management concluded that the Company's internal control over financial reporting was effective in providing reasonable assurance regarding the reliability of financial reporting and the preparation of the Company's financial statements for external purposes in accordance with generally accepted accounting principles as of December 31, 2016. Management's assessment of and conclusion on the effectiveness of internal control over financial reporting did not include the internal controls of its newly-acquired Ratliff ready mixed concrete operations, which are included in the 2016 consolidated financial statements and constituted approximately 1% of consolidated total assets and approximately 1% of net revenues as of and for the year ended December 31, 2016.

Changes in Internal Control over Financial Reporting

There were no changes in the Company's internal control over financial reporting during the most recently completed fiscal quarter ended December 31, 2016 that materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Limitations on the Effectiveness of Controls

The Company's management, including the CEO and CFO, does not expect that the Company's control system will prevent all error and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the control. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

CEO and CFO Certifications

Included among the Exhibits to this Form 10-K are forms of "Certifications" of the Company's CEO and CFO as required in accordance with Section 302 of the Sarbanes-Oxley Act of 2002 (the "Section 302 Certification"). The Section 302 Certifications refer to this evaluation of the Company's disclosure policies and procedures and internal control over financial reporting. The information in this section should be read in conjunction with the Section 302 Certifications for a more complete understanding of the topics presented.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information concerning directors of the Company, the Audit Committee of the Board of Directors, and the Audit Committee financial expert serving on the Audit Committee, all as required in response to this Item 10, is included under the captions “Corporate Governance Matters” and “Section 16(a) Beneficial Ownership Reporting Compliance” in the Company’s definitive proxy statement to be filed with the SEC pursuant to Regulation 14A within 120 days after the close of the Company’s fiscal year ended December 31, 2016 (the “2017 Proxy Statement”), and that information is hereby incorporated by reference in this Form 10-K. Information concerning executive officers of the Company required in response to this Item 10 is included in Part I, under the heading “Executive Officers of the Registrant,” of this Form 10-K. The information concerning the Company’s code of ethics required in response to this Item 10 is included in Part I, under the heading “Available Information,” of this Form 10-K.

ITEM 11. EXECUTIVE COMPENSATION

The information required in response to this Item 11 is included under the captions “Executive Compensation,” “Compensation Discussion and Analysis,” “Corporate Governance Matters,” “Management Development and Compensation Committee Report,” and “Compensation Committee Interlocks and Insider Participation” in the Company’s 2017 Proxy Statement, and that information is hereby incorporated by reference in this Form 10-K.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required in response to this Item 12 is included under the captions “General Information,” “Security Ownership of Certain Beneficial Owners and Management,” and “Securities Authorized for Issuance Under Equity Compensation Plans” in the Company’s 2017 Proxy Statement, and that information is hereby incorporated by reference in this Form 10-K.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required in response to this Item 13 is included under the captions “Compensation Committee Interlocks and Insider Participation in Compensation Decisions” and “Corporate Governance Matters” in the Company’s 2017 Proxy Statement, and that information is hereby incorporated by reference in this Form 10-K.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required in response to this Item 14 is included under the caption “Independent Auditors” in the Company’s 2017 Proxy Statement, and that information is hereby incorporated by reference in this Form 10-K.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) (1) List of financial statements filed as part of this Form 10-K.

The following consolidated financial statements of Martin Marietta Materials, Inc. and consolidated subsidiaries, included in the 2016 Annual Report and incorporated by reference under Item 8 of this Form 10-K:

Consolidated Statements of Earnings—
for years ended December 31, 2016, 2015, and 2014

Consolidated Statements of Comprehensive Earnings—
for years ended December 31, 2016, 2015, and 2014

Consolidated Balance Sheets—
at December 31, 2016 and 2015

Consolidated Statements of Cash Flows—
for years ended December 31, 2016, 2015, and 2014

Consolidated Statements of Total Equity—
for years ended December 31, 2016, 2015 and 2014

Notes to Financial Statements

(2) List of financial statement schedules filed as part of this Form 10-K

The following financial statement schedule of Martin Marietta Materials, Inc. and consolidated subsidiaries is included in Item 15(c) of this Form 10-K.

Schedule II - Valuation and Qualifying Accounts

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All other schedules have been omitted because they are not applicable, not required, or the information has been otherwise supplied in the financial statements or notes to the financial statements.

The report of the Company's independent registered public accounting firm with respect to the above-referenced financial statements is included in the 2016 Annual Report, and that report is hereby incorporated by reference in this Form 10-K. The report on the financial statement schedule and the consent of the Company's independent registered public accounting firm are attached as Exhibit 23.01 to this Form 10-K.

(3) Exhibits

The list of Exhibits on the accompanying Index of Exhibits included in Item 15(b) of this Form 10-K is hereby incorporated by reference. Each management contract or compensatory plan or arrangement required to be filed as an exhibit is indicated by asterisks.

(b) Index of Exhibits

Exhibit No.

- *3.01 —Restated Articles of Incorporation of the Company, as amended
- 3.02 —Restated Bylaws of the Company (incorporated by reference to Exhibit 3.01 to the Martin Marietta Materials, Inc. Current Report on Form 8-K, filed on May 22, 2015) (Commission File No. 1-12744)
- 4.01 —Specimen Common Stock Certificate (incorporated by reference to Exhibit 4.01 to the Martin Marietta Materials, Inc. registration statement on Form S-1 (SEC Registration No. 33-72648))
- *4.02 —Article 5 of the Company's Restated Articles of Incorporation, as amended (incorporated by reference to Exhibit 3.01 filed with this Annual Report on Form 10-K)
- 4.03 —Article 1 of the Company's Restated Bylaws, as amended (incorporated by reference to Exhibit 3.01 to the Martin Marietta Materials, Inc. Current Report on Form 8-K, filed on November 10, 2011) (Commission File No. 1-12744)
- 4.04 —Indenture dated as of December 1, 1995 between Martin Marietta Materials, Inc. and First Union National Bank of North Carolina (incorporated by reference to Exhibit 4(a) to the Martin Marietta Materials, Inc. registration statement on Form S-3 (SEC Registration No. 33-99082))
- 4.05 —Form of Martin Marietta Materials, Inc. 7% Debenture due 2025 (incorporated by reference to Exhibit 4(a)(i) to the Martin Marietta Materials, Inc. registration statement on Form S-3 (SEC Registration No. 33-99082))
- 4.06 —Indenture dated as of April 30, 2007 between Martin Marietta Materials, Inc. and Branch Banking and Trust Company, Inc., as trustee (incorporated by reference to Exhibit 4.1 to the Martin Marietta Materials, Inc. Current Report on Form 8-K, filed on April 30, 2007 (Commission File No. 1-12744))
- 4.07 —Second Supplemental Indenture, dated as of April 30, 2007, between Martin Marietta Materials, Inc. and Branch Banking and Trust Company, Inc., as trustee, to that certain Indenture dated

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- as of April 30, 2007 between Martin Marietta Materials, Inc. and Branch Banking and Trust Company, Inc., as trustee, pursuant to which were issued \$250,000,000 aggregate principal amount of 6 1/4 % Senior Notes due 2037 of Martin Marietta Materials, Inc. (incorporated by reference to Exhibit 4.3 to the Martin Marietta Materials, Inc. Current Report on Form 8-K, filed on April 30, 2007 (Commission File No. 1-12744))
- 4.08 —Third Supplemental Indenture, dated as of April 21, 2008, between Martin Marietta Materials, Inc. and Branch Banking and Trust Company, Inc., as trustee, to that certain Indenture dated as of April 30, 2007 between Martin Marietta Materials, Inc. and Branch Banking and Trust Company, Inc., as trustee, pursuant to which were issued \$300,000,000 aggregate principal amount of 6.60% Senior Notes due 2018 of Martin Marietta Materials, Inc. (incorporated by reference to Exhibit 4.1 to the Martin Marietta Materials, Inc. Current Report on Form 8-K, filed on April 21, 2008 (Commission File No. 1-12744))
- 4.09 —Purchase Agreement dated as of June 23, 2014 among Martin Marietta Materials, Inc. and Deutsche Bank Securities Inc. and J.P. Morgan Securities LLC, as representatives of the several initial purchasers named in Schedule 1 thereto (incorporated by reference to Exhibit 4.1 of the Company’s Current Report on Form 8-K, filed on June 24, 2014) (Commission File No. 1-12744)
- 4.10 —Indenture, dated as of July 2, 2014, between Martin Marietta Materials, Inc. and Regions Bank, as trustee (incorporated by reference to Exhibit 4.1 of the Company’s Current Report on Form 8-K, filed on July 2, 2014) (Commission File No. 1-12744)
- 4.11 —Form of Floating Rate Senior Notes due 2017 (included in Exhibit 4.09)
- 4.12 —Form of 4.250% Senior Notes due 2024 (included in Exhibit 4.09)
- 10.01 —\$700,000,000 Credit Agreement dated as of December 5, 2016 among Martin Marietta Materials, Inc., JPMorgan Chase Bank, N.A., as Administrative Agent, and Wells Fargo Bank, N.A., Branch Banking and Trust Company, SunTrust Bank, and Deutsche Bank Securities Inc., as Co-Syndication Agents (incorporated by reference to Exhibit 10.01 to the Martin Marietta Materials, Inc., Current Report on Form 8-K filed on December 7, 2016) (Commission File No. 1-12744)
- 10.02 — Credit and Security Agreement dated as of April 19, 2013, among Martin Marietta Funding LLC, as borrower, Martin Marietta Materials, Inc., as servicer, and SunTrust Bank, as lender together with the other lenders from time to time party thereto, and SunTrust Bank, as administrative agent for the lenders (incorporated by reference to Exhibit 10.01 to the Martin Marietta Materials, Inc. Current Report on Form 8-K filed on April 24, 2013) (Commission File No. 1-12744)
- 10.03 —Commitment Letter dated as of June 20, 2014 to the Credit and Security Agreement, dated as of April 19, 2013 (as last amended April 18, 2014), among Martin Marietta Funding LLC, as borrower, Martin Marietta Materials, Inc., as servicer, and SunTrust Bank, as lender together with the other lenders from time to time party thereto, and SunTrust Bank, as administrative agent for the lenders (incorporated by reference to Exhibit 10.01 to the Martin Marietta Materials, Inc. Current Report on Form 8-K filed on June 25, 2014) (Commission File No. 1-12744)
- 10.04 —Second Amendment to Credit and Security Agreement, dated as of April 18, 2014, among Martin Marietta Funding LLC, as borrower, Martin Marietta Materials, Inc., as servicer, and SunTrust Bank, as lender together with the other lenders from time to time party thereto, and SunTrust Bank, as administrative agent for the lenders (incorporated by reference to Exhibit 10.02 to the Martin Marietta Materials, Inc. Current Report on Form 8-K filed on April 24, 2014) (Commission File No. 1-12744)

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- 10.05 —Fifth Amendment to Credit and Security Agreement, dated as of September 30, 2014, among Martin Marietta Funding LLC, as borrower, Martin Marietta Materials, Inc., as servicer, and SunTrust Bank, as lender together with the other lenders from time to time party thereto, and SunTrust Bank, as administrative agent for the lenders (incorporated by reference to Exhibit 10.01 to the Martin Marietta Materials, Inc. Current Report on Form 8-K filed on October 3, 2014) (Commission File No. 1-12744)
- 10.06 —Seventh Amendment to Credit and Security Agreement, dated as of September 28, 2016, among Martin Marietta Funding LLC, as borrower, Martin Marietta Materials, Inc., as servicer, and SunTrust Bank, as lender together with the other lenders from time to time party thereto, and SunTrust Bank, as administrative agent for the lenders (incorporated by reference to Exhibit 10.01 to the Martin Marietta Materials, Inc. Current Report on Form 8-K filed on September 30, 2016) (Commission File No. 1-12744)
- 10.07 —Purchase and Contribution Agreement dated as of April 19, 2013, between Martin Marietta Materials, Inc., as seller and as servicer, and Martin Marietta Funding LLC, as buyer (incorporated by reference to Exhibit 10.02 to the Martin Marietta Materials, Inc. Current Report on Form 8-K filed on April 24, 2013) (Commission File No. 1-12744)
- 10.08 —Form of Martin Marietta Materials, Inc. Third Amended and Restated Employment Protection Agreement (incorporated by reference to Exhibit 10.01 to the Martin Marietta Materials, Inc. Current Report on Form 8-K, filed on August 19, 2008) (Commission File No. 1-12744)**
- 10.09 —Amended and Restated Martin Marietta Materials, Inc. Common Stock Purchase Plan for Directors (incorporated by reference to Exhibit 10.05 to the Martin Marietta Materials, Inc. Annual Report on Form 10-K for the fiscal year ended December 31, 2013) (Commission File No. 1-12744)**
- 10.10 —Martin Marietta Materials, Inc. Amended and Restated Executive Incentive Plan (incorporated by reference to Exhibit 10.05 to the Martin Marietta Materials, Inc. Annual Report on Form 10-K for the fiscal year ended December 31, 2008) (Commission File No. 1-12744)**
- 10.11 —Martin Marietta Materials, Inc. Incentive Stock Plan, as Amended (incorporated by reference to Exhibit 10.06 to the Martin Marietta Materials, Inc. Annual Report on Form 10-K for the fiscal year ended December 31, 2008) (Commission File No. 1-12744)**
- 10.12 —Martin Marietta Amended and Restated Stock-Based Award Plan last amended and restated February 18, 2016 (incorporated by reference to Exhibit 10.01 to the Martin Marietta Materials, Inc. Quarterly Report on Form 10-Q for the quarter ended June 30, 2016) (Commission File No. 1-12744)**
- 10.13 —Martin Marietta Executive Cash Incentive Plan adopted February 18, 2016 (incorporated by reference to Exhibit 10.02 to the Martin Marietta Materials, Inc. Quarterly Report on Form 10-Q for the quarter ended June 30, 2016) (Commission File No. 1-12744)**
- 10.14 —Martin Marietta Materials, Inc. Amended Omnibus Securities Award Plan (incorporated by reference to Exhibit 10.16 to the Martin Marietta Materials, Inc. Annual Report on Form 10-K for the fiscal year ended December 31, 2000) (Commission File No. 1-12744)**
- 10.15 —Martin Marietta Materials, Inc. Third Amended and Restated Supplemental Excess Retirement Plan (incorporated by reference to Exhibit 10 to the Martin Marietta Materials, Inc. Quarterly Report on Form 10-Q for the quarter ended June 30, 2012) (Commission File No. 1-12744)**
- 10.16 —Form of Option Award Agreement under the Martin Marietta Materials, Inc. Amended and Restated Stock-Based Award Plan (incorporated by reference to Exhibit 10.11 to the Martin Marietta Materials, Inc. Annual Report on Form 10-K for the fiscal year ended December 31, 2008) (Commission File No. 1-12744)**

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10.17	—Form of Restricted Stock Unit Award Agreement under the Martin Marietta Materials, Inc. Amended and Restated Stock-Based Award Plan (incorporated by reference to Exhibit 10.01 to the Martin Marietta Materials, Inc. Quarterly Report on Form 10-Q for the quarter ended March 31, 2016) (Commission File No. 1-12744)**
10.18	—Form of Amendment to the Stock Unit Agreement under the Martin Marietta Materials, Inc. Amended and Restated Stock-Based Award Plan (incorporated by reference to Exhibit 10.13 to the Martin Marietta Materials, Inc. Annual Report on Form 10-K for the fiscal year ended December 31, 2008) (Commission File No. 1-12744)**
10.19	—Form of Restricted Stock Unit Agreement for Directors under the Martin Marietta Materials, Inc. Amended and Restated Stock-Based Award Plan (incorporated by reference to Exhibit 10.14 to the Martin Marietta Materials, Inc. Annual Report on Form 10-K for the fiscal year ended December 31, 2013) (Commission File No. 1-12744)**
10.20	—Form of Special Restricted Stock Unit Agreement under the Martin Marietta Materials, Inc. Amended and Restated Stock-Based Award Plan (incorporated by reference to Exhibit 10.19 to the Martin Marietta Materials, Inc. Annual Report on Form 10-K for the fiscal year ended December 31, 2014) (Commission File No. 1-12744)**
10.21	—Form of Performance Share Unit Award Agreement under the Martin Marietta Materials, Inc. Amended and Restated Stock-Based Award Plan (incorporated by reference to Exhibit 10.02 to the Martin Marietta Materials, Inc. Quarterly Report on Form 10-Q for the quarter ended March 31, 2016) (Commission File No. 1-12744)**
*12.01	—Computation of ratio of earnings to fixed charges for the year ended December 31, 2016
*13.01	—Excerpts from Martin Marietta Materials, Inc. 2016 Annual Report to Shareholders, portions of which are incorporated by reference in this Form 10-K. Those portions of the 2016 Annual Report to Shareholders that are not incorporated by reference shall not be deemed to be “filed” as part of this report.
*21.01	—List of subsidiaries of Martin Marietta Materials, Inc.
*23.01	—Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm for Martin Marietta Materials, Inc. and consolidated subsidiaries
*23.02	—Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm for Martin Marietta Materials, Inc. and consolidated subsidiaries
*24.01	—Powers of Attorney (included in this Form 10-K immediately following Signatures)
*31.01	—Certification dated February 24, 2017 of Chief Executive Officer pursuant to Securities and Exchange Act of 1934, rule 13a-14, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
*31.02	—Certification dated February 24, 2017 of Chief Financial Officer pursuant to Securities and Exchange Act of 1934, rule 13a-14, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
*32.01	—Certification dated February 24, 2017 of Chief Executive Officer required by 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
*32.02	—Certification dated February 24, 2017 of Chief Financial Officer required by 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
*95	—Mine Safety Disclosure Exhibit
*101.INS	—XBRL Instance Document
*101.SCH	—XBRL Taxonomy Extension Schema Document
*101.CAL	—XBRL Taxonomy Extension Calculation Linkbase Document
*101.LAB	—XBRL Taxonomy Extension Label Linkbase Document
*101.PRE	—XBRL Taxonomy Extension Presentation Linkbase Document
*101.DEF	—XBRL Taxonomy Extension Definition Linkbase

Other material incorporated by reference:

Martin Marietta Materials, Inc.’s 2017 Proxy Statement filed pursuant to Regulation 14A, portions of which are incorporated by reference in this Form 10-K. Those portions of the 2017 Proxy Statement which are not incorporated by reference shall not be deemed to be “filed” as part of this report.

* Filed herewith

** Management contract or compensatory plan or arrangement required to be filed as an exhibit pursuant to Item 14(c) of Form 10-K

ITEM 16. FORM 10-K SUMMARY

The Company has chosen not to include an optional summary of the information required by this Form 10-K. For a reference to the information in this Form 10-K, investors should refer to the Table of Contents to this Form 10-K.

(c) Financial Statement Schedule

SCHEDULE II — VALUATION AND QUALIFYING ACCOUNTS
MARTIN MARIETTA MATERIALS, INC. AND CONSOLIDATED SUBSIDIARIES

<u>Col A</u>	<u>Col B</u>	<u>Col C</u>		<u>Col D</u>	<u>Col E</u>
Description	Balance at beginning of period	Additions		Deductions-describe	Balance at end of period
(Amounts in Thousands)		(1) Charged to costs and expenses	(2) Charged to other accounts — describe		
Year ended December 31, 2016					
Allowance for doubtful accounts	\$ 6,940	\$ —		\$ 674(a)	6,266
Allowance for uncollectible notes receivable	585	—	—	148(a)	437
Inventory valuation allowance	130,584	4,160	118(b)	—	134,862
Year ended December 31, 2015					
Allowance for doubtful accounts	\$ 4,077	\$ 2,863	\$ —	\$ —	\$ 6,940
Allowance for uncollectible notes receivable	1,486	—	—	901(a)	585
Inventory valuation allowance	119,189	13,365	1,400(b)	3,370 (c)	130,584
Year ended December 31, 2014					
Allowance for doubtful accounts	\$ 4,081	\$ —	\$ —	\$ 4(a)	\$ 4,077
Allowance for uncollectible notes receivable	809	—	1,103(d)	426(a)	1,486
Inventory valuation allowance	99,026	11,762	9,942(d)	1,541(c)	119,189

- (a) Write off of uncollectible accounts and change in estimates.
(b) Application of reserve policy to acquired inventories.
(c) Divestitures.
(d) Application of reserves to acquired notes receivable.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

MARTIN MARIETTA MATERIALS, INC.

By: /s/ Roselyn R. Bar

Roselyn R. Bar

Executive Vice President, General Counsel and Corporate Secretary

Dated: February 24, 2017

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below appoints Roselyn R. Bar and M. Guy Brooks, III, jointly and severally, as his or her true and lawful attorney-in-fact, each with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact, jointly and severally, full power and authority to do and perform each in connection therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact, jointly and severally, or their or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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Pursuant to the requirements of the Securities and Exchange Act of 1934, this report has been signed by the following persons on behalf of the registrant and in the capacities and on the dates indicated:

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ C. Howard Nye</u> C. Howard Nye	Chairman of the Board, President and Chief Executive Officer	February 24, 2017
<u>/s/ Anne H. Lloyd</u> Anne H. Lloyd	Executive Vice President and Chief Financial Officer	February 24, 2017
<u>/s/ Dana F. Guzzo</u> Dana F. Guzzo	Senior Vice President, Chief Accounting Officer and Controller	February 24, 2017
<u>/s/ Sue W. Cole</u> Sue W. Cole	Director	February 24, 2017
<u>/s/ John J. Koraleski</u> John J. Koraleski	Director	February 24, 2017
<u>/s/ David G. Maffucci</u> David G. Maffucci	Director	February 24, 2017
<u>/s/ William E. McDonald</u> William E. McDonald	Director	February 24, 2017
<u>/s/ Laree E. Perez</u> Laree E. Perez	Director	February 24, 2017
<u>/s/ Michael J. Quillen</u> Michael J. Quillen	Director	February 24, 2017
<u>/s/ Dennis L. Rediker</u> Dennis L. Rediker	Director	February 24, 2017
<u>/s/ Donald W. Slager</u> Donald W. Slager	Director	February 24, 2017
<u>/s/ Stephen P. Zelnak, Jr.</u> Stephen P. Zelnak, Jr.	Director	February 24, 2017

EXHIBITS

<u>Exhibit No.</u>	
*3.01	—Restated Articles of Incorporation of the Company, as amended
3.02	—Restated Bylaws of the Company (incorporated by reference to Exhibit 3.01 to the Martin Marietta Materials, Inc. Current Report on Form 8-K, filed on May 22, 2015) (Commission File No. 1-12744)
4.01	—Specimen Common Stock Certificate (incorporated by reference to Exhibit 4.01 to the Martin Marietta Materials, Inc. registration statement on Form S-1 (SEC Registration No. 33-72648))
*4.02	—Article 5 of the Company’s Restated Articles of Incorporation, as amended (incorporated by reference to Exhibit 3.01 filed with this Annual Report on Form 10-K)
4.03	—Article 1 of the Company’s Restated Bylaws, as amended (incorporated by reference to Exhibit 3.01 to the Martin Marietta Materials, Inc. Current Report on Form 8-K, filed on November 10, 2011) (Commission File No. 1-12744)
4.04	—Indenture dated as of December 1, 1995 between Martin Marietta Materials, Inc. and First Union National Bank of North Carolina (incorporated by reference to Exhibit 4(a) to the Martin Marietta Materials, Inc. registration statement on Form S-3 (SEC Registration No. 33-99082))
4.05	—Form of Martin Marietta Materials, Inc. 7% Debenture due 2025 (incorporated by reference to Exhibit 4(a)(i) to the Martin Marietta Materials, Inc. registration statement on Form S-3 (SEC Registration No. 33-99082))
4.06	—Indenture dated as of April 30, 2007 between Martin Marietta Materials, Inc. and Branch Banking and Trust Company, Inc., as trustee (incorporated by reference to Exhibit 4.1 to the Martin Marietta Materials, Inc. Current Report on Form 8-K, filed on April 30, 2007 (Commission File No. 1-12744))
4.07	—Second Supplemental Indenture, dated as of April 30, 2007, between Martin Marietta Materials, Inc. and Branch Banking and Trust Company, Inc., as trustee, to that certain Indenture dated as of April 30, 2007 between Martin Marietta Materials, Inc. and Branch Banking and Trust Company, Inc., as trustee, pursuant to which were issued \$250,000,000 aggregate principal amount of 6 1/4% Senior Notes due 2037 of Martin Marietta Materials, Inc. (incorporated by reference to Exhibit 4.3 to the Martin Marietta Materials, Inc. Current Report on Form 8-K, filed on April 30, 2007 (Commission File No. 1-12744))
4.08	—Third Supplemental Indenture, dated as of April 21, 2008, between Martin Marietta Materials, Inc. and Branch Banking and Trust Company, Inc., as trustee, to that certain Indenture dated as of April 30, 2007 between Martin Marietta Materials, Inc. and Branch Banking and Trust Company, Inc., as trustee, pursuant to which were issued \$300,000,000 aggregate principal amount of 6.60% Senior Notes due 2018 of Martin Marietta Materials, Inc. (incorporated by reference to Exhibit 4.1 to the Martin Marietta Materials, Inc. Current Report on Form 8-K, filed on April 21, 2008 (Commission File No. 1-12744))
4.09	—Purchase Agreement dated as of June 23, 2014 among Martin Marietta Materials, Inc. and Deutsche Bank Securities Inc. and J.P. Morgan Securities LLC, as representatives of the several initial purchasers named in Schedule 1 thereto (incorporated by reference to Exhibit 4.1 of the Company’s Current Report on Form 8-K, filed on June 24, 2014) (Commission File No. 1-12744)

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- 4.10 —Indenture, dated as of July 2, 2014, between Martin Marietta Materials, Inc. and Regions Bank, as trustee (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K, filed on July 2, 2014) (Commission File No. 1-12744)
- 4.11 —Form of Floating Rate Senior Notes due 2017 (included in Exhibit 4.09)
- 4.12 —Form of 4.250% Senior Notes due 2024 (included in Exhibit 4.09)
- 10.01 —\$700,000,000 Credit Agreement dated as of December 5, 2016 among Martin Marietta Materials, Inc., JPMorgan Chase Bank, N.A., as Administrative Agent, and Wells Fargo Bank, N.A., Branch Banking and Trust Company, SunTrust Bank, and Deutsche Bank Securities Inc., as Co-Syndication Agents (incorporated by reference to Exhibit 10.01 to the Martin Marietta Materials, Inc., Current Report on Form 8-K filed on December 7, 2016) (Commission File No. 1-12744)
- 10.02 — Credit and Security Agreement dated as of April 19, 2013, among Martin Marietta Funding LLC, as borrower, Martin Marietta Materials, Inc., as servicer, and SunTrust Bank, as lender together with the other lenders from time to time party thereto, and SunTrust Bank, as administrative agent for the lenders (incorporated by reference to Exhibit 10.01 to the Martin Marietta Materials, Inc. Current Report on Form 8-K filed on April 24, 2013) (Commission File No. 1-12744)
- 10.03 —Commitment Letter dated as of June 20, 2014 to the Credit and Security Agreement, dated as of April 19, 2013 (as last amended April 18, 2014), among Martin Marietta Funding LLC, as borrower, Martin Marietta Materials, Inc., as servicer, and SunTrust Bank, as lender together with the other lenders from time to time party thereto, and SunTrust Bank, as administrative agent for the lenders (incorporated by reference to Exhibit 10.01 to the Martin Marietta Materials, Inc. Current Report on Form 8-K filed on June 25, 2014) (Commission File No. 1-12744)
- 10.04 —Second Amendment to Credit and Security Agreement, dated as of April 18, 2014, among Martin Marietta Funding LLC, as borrower, Martin Marietta Materials, Inc., as servicer, and SunTrust Bank, as lender together with the other lenders from time to time party thereto, and SunTrust Bank, as administrative agent for the lenders (incorporated by reference to Exhibit 10.02 to the Martin Marietta Materials, Inc. Current Report on Form 8-K filed on April 24, 2014) (Commission File No. 1-12744)
- 10.05 —Fifth Amendment to Credit and Security Agreement, dated as of September 30, 2014, among Martin Marietta Funding LLC, as borrower, Martin Marietta Materials, Inc., as servicer, and SunTrust Bank, as lender together with the other lenders from time to time party thereto, and SunTrust Bank, as administrative agent for the lenders (incorporated by reference to Exhibit 10.01 to the Martin Marietta Materials, Inc. Current Report on Form 8-K filed on October 3, 2014) (Commission File No. 1-12744)
- 10.06 —Seventh Amendment to Credit and Security Agreement, dated as of September 28, 2016, among Martin Marietta Funding LLC, as borrower, Martin Marietta Materials, Inc., as servicer, and SunTrust Bank, as lender together with the other lenders from time to time party thereto, and SunTrust Bank, as administrative agent for the lenders (incorporated by reference to Exhibit 10.01 to the Martin Marietta Materials, Inc. Current Report on Form 8-K filed on September 30, 2016) (Commission File No. 1-12744)

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- 10.07 — Purchase and Contribution Agreement dated as of April 19, 2013, between Martin Marietta Materials, Inc., as seller and as servicer, and Martin Marietta Funding LLC, as buyer (incorporated by reference to Exhibit 10.02 to the Martin Marietta Materials, Inc. Current Report on Form 8-K filed on April 24, 2013) (Commission File No. 1-12744)
- 10.08 —Form of Martin Marietta Materials, Inc. Third Amended and Restated Employment Protection Agreement (incorporated by reference to Exhibit 10.01 to the Martin Marietta Materials, Inc. Current Report on Form 8-K, filed on August 19, 2008) (Commission File No. 1-12744)**
- 10.09 —Amended and Restated Martin Marietta Materials, Inc. Common Stock Purchase Plan for Directors (incorporated by reference to Exhibit 10.05 to the Martin Marietta Materials, Inc. Annual Report on Form 10-K for the fiscal year ended December 31, 2013) (Commission File No. 1-12744)**
- 10.10 —Martin Marietta Materials, Inc. Amended and Restated Executive Incentive Plan (incorporated by reference to Exhibit 10.05 to the Martin Marietta Materials, Inc. Annual Report on Form 10-K for the fiscal year ended December 31, 2008) (Commission File No. 1-12744)**
- 10.11 —Martin Marietta Materials, Inc. Incentive Stock Plan, as Amended (incorporated by reference to Exhibit 10.06 to the Martin Marietta Materials, Inc. Annual Report on Form 10-K for the fiscal year ended December 31, 2008) (Commission File No. 1-12744)**
- 10.12 —Martin Marietta Amended and Restated Stock-Based Award Plan last amended and restated February 18, 2016 (incorporated by reference to Exhibit 10.01 to the Martin Marietta Materials, Inc. Quarterly Report on Form 10-Q for the quarter ended June 30, 2016) (Commission File No. 1-12744)**
- 10.13 —Martin Marietta Executive Cash Incentive Plan adopted February 18, 2016 (incorporated by reference to Exhibit 10.02 to the Martin Marietta Materials, Inc. Quarterly Report on Form 10-Q for the quarter ended June 30, 2016) (Commission File No. 1-12744)**
- 10.14 —Martin Marietta Materials, Inc. Amended Omnibus Securities Award Plan (incorporated by reference to Exhibit 10.16 to the Martin Marietta Materials, Inc. Annual Report on Form 10-K for the fiscal year ended December 31, 2000) (Commission File No. 1-12744)**
- 10.15 —Martin Marietta Materials, Inc. Third Amended and Restated Supplemental Excess Retirement Plan (incorporated by reference to Exhibit 10 to the Martin Marietta Materials, Inc. Quarterly Report on Form 10-Q for the quarter ended June 30, 2012) (Commission File No. 1-12744)**
- 10.16 —Form of Option Award Agreement under the Martin Marietta Materials, Inc. Amended and Restated Stock-Based Award Plan (incorporated by reference to Exhibit 10.11 to the Martin Marietta Materials, Inc. Annual Report on Form 10-K for the fiscal year ended December 31, 2008) (Commission File No. 1-12744)**
- 10.17 —Form of Restricted Stock Unit Award Agreement under the Martin Marietta Materials, Inc. Amended and Restated Stock-Based Award Plan (incorporated by reference to Exhibit 10.01 to the Martin Marietta Materials, Inc. Quarterly Report on Form 10-Q for the quarter ended March 31, 2016) (Commission File No. 1-12744)**
- 10.18 —Form of Amendment to the Stock Unit Agreement under the Martin Marietta Materials, Inc. Amended and Restated Stock-Based Award Plan (incorporated by reference to Exhibit 10.13 to the Martin Marietta Materials, Inc. Annual Report on Form 10-K for the fiscal year ended December 31, 2008) (Commission File No. 1-12744)**

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10.19	—Form of Restricted Stock Unit Agreement for Directors under the Martin Marietta Materials, Inc. Amended and Restated Stock-Based Award Plan (incorporated by reference to Exhibit 10.14 to the Martin Marietta Materials, Inc. Annual Report on Form 10-K for the fiscal year ended December 31, 2013) (Commission File No. 1-12744)**
10.20	—Form of Special Restricted Stock Unit Agreement under the Martin Marietta Materials, Inc. Amended and Restated Stock-Based Award Plan (incorporated by reference to Exhibit 10.19 to the Martin Marietta Materials, Inc. Annual Report on Form 10-K for the fiscal year ended December 31, 2014) (Commission File No. 1-12744)**
10.21	—Form of Performance Share Unit Award Agreement under the Martin Marietta Materials, Inc. Amended and Restated Stock-Based Award Plan (incorporated by reference to Exhibit 10.02 to the Martin Marietta Materials, Inc. Quarterly Report on Form 10-Q for the quarter ended March 31, 2016) (Commission File No. 1-12744)**
*12.01	—Computation of ratio of earnings to fixed charges for the year ended December 31, 2016
*13.01	—Excerpts from Martin Marietta Materials, Inc. 2016 Annual Report to Shareholders, portions of which are incorporated by reference in this Form 10-K. Those portions of the 2016 Annual Report to Shareholders that are not incorporated by reference shall not be deemed to be “filed” as part of this report.
*21.01	—List of subsidiaries of Martin Marietta Materials, Inc.
*23.01	—Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm for Martin Marietta Materials, Inc. and consolidated subsidiaries
*23.02	—Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm for Martin Marietta Materials, Inc. and consolidated subsidiaries
*24.01	—Powers of Attorney (included in this Form 10-K immediately following Signatures)
*31.01	—Certification dated February 24, 2017 of Chief Executive Officer pursuant to Securities and Exchange Act of 1934, rule 13a-14, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
*31.02	—Certification dated February 24, 2017 of Chief Financial Officer pursuant to Securities and Exchange Act of 1934, rule 13a-14, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
*32.01	—Certification dated February 24, 2017 of Chief Executive Officer required by 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
*32.02	—Certification dated February 24, 2017 of Chief Financial Officer required by 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
*95	—Mine Safety Disclosure Exhibit
*101.INS	—XBRL Instance Document
*101.SCH	—XBRL Taxonomy Extension Schema Document
*101.CAL	—XBRL Taxonomy Extension Calculation Linkbase Document
*101.LAB	—XBRL Taxonomy Extension Label Linkbase Document
*101.PRE	—XBRL Taxonomy Extension Presentation Linkbase Document
*101.DEF	—XBRL Taxonomy Extension Definition Linkbase

Other material incorporated by reference:

Martin Marietta Materials, Inc.’s 2017 Proxy Statement filed pursuant to Regulation 14A, portions of which are incorporated by reference in this Form 10-K. Those portions of the 2017 Proxy Statement which are not incorporated by reference shall not be deemed to be “filed” as part of this report.

* Filed herewith

** Management contract or compensatory plan or arrangement required to be filed as an exhibit pursuant to Item 14(c) of Form 10-K

RESTATED
ARTICLES OF INCORPORATION
OF
MARTIN MARIETTA MATERIALS, INC.

1. The name of the corporation is Martin Marietta Materials, Inc. (hereinafter the "Corporation").

2. The number of shares the Corporation is authorized to issue is One Hundred Ten Million (110,000,000), divided into One Hundred Million (100,000,000) Common Shares and Ten Million (10,000,000) Preferred Shares, each with a par value of one cent (\$.01) per share.

The preferences, limitations and relative rights of each class and series of shares are as follows:

(a) Common Shares

The common shares shall be entitled to one vote per share and to all other rights of shareholders subject only to any rights granted to Preferred Shares under subparagraph (b) of this Article 2.

(b) Preferred Shares

The Preferred Shares may be issued in one or more series with such designations, preferences, limitations, and relative rights as the board of directors may determine from time to time in accordance with applicable law.

3. The address of the registered office of the Corporation in the State of North Carolina is 225 Hillsborough Street, Raleigh, Wake County, North Carolina 27603; and the name of its registered agent at such address is CT Corporation System.

4. The name and address of the incorporator are Russell M. Robinson, II, 1900 Independence Center, Charlotte, Mecklenburg County, North Carolina 28246.

5. (a) The number of directors of the Corporation shall be not less than nine (9) nor more than eleven (11). By vote of a majority of the Board of Directors or shareholders of the Corporation, the number of directors of the Corporation may be increased or decreased, from time to time, within the range above specified; provided, however, that the tenure of office of a director shall not be affected by any decrease in the number of directors so made by the Board or the shareholders.

(b) (i) The directors shall be divided into three classes, designated Class I, Class II and Class III. Each class shall consist, as nearly as may be possible, of one-third of the total number of directors constituting the Board of Directors. Prior to the 1997 annual meeting of shareholders, the Board of Directors shall determine which directors shall be designated as Class I, Class II and Class III directors. The term of the initial Class I directors shall terminate on the date of the 1997 annual meeting of shareholders; the term of the initial Class II directors shall terminate on the date of the 1998 annual meeting of shareholders; and the term of the initial Class III directors shall terminate on the date of the 1999 annual meeting of shareholders. At each annual meeting of shareholders beginning in 1997, successors to the class of directors whose term expires at that annual meeting shall be elected for a three-year term. Those persons who receive the highest number of votes at a meeting at which a quorum is present shall be deemed to have been elected.

(ii) If the number of directors is changed, any increase or decrease shall be apportioned among the classes so as to maintain the number of directors in each class as nearly equal as possible, but in no case will a decrease in the number of directors shorten the term of any incumbent director. A director shall hold office until the annual meeting for the year in which his or her term expires and until his or her successor shall be elected and shall qualify, subject, however, to prior death, resignation, retirement, disqualification or removal from office.

(iii) Notwithstanding the foregoing, whenever the holders of any one or more classes or series of Preferred Shares issued by the Corporation shall have the right, voting separately by class or series, to elect directors at an annual or special meeting of shareholders, the election, term of office, filling of vacancies and other features of such directorships shall be governed by the terms of these Restated Articles of Incorporation or the resolution or resolutions adopted by the Board of Directors pursuant to Article 2(b) of these Restated Articles of Incorporation applicable thereto, and such directors so elected shall not be divided into classes pursuant to this Article 5(b) unless expressly provided by the terms of such Preferred Shares.

(c) Vacancies in the Board of Directors, except for vacancies resulting from an increase in the number of directors, shall be filled only by a majority vote of the remaining directors then in office, though less than a quorum, except that vacancies resulting from removal from office by a vote of the shareholders may be filled by the shareholders at the same meeting at which such removal occurs. Vacancies resulting from an increase in the number of directors shall be filled only by a majority vote of the Board of Directors. Any director elected to fill a vacancy shall hold office until the next shareholders' meeting at which directors are elected. No decrease in the number of directors constituting the Board of Directors shall affect the tenure of any incumbent director.

(d) Except as otherwise provided herein, any of the directors or the entire Board of Directors, as the case may be, may be removed at any time, but only for cause, by a vote of the shareholders and if the number of votes cast to remove such director(s) or the entire Board of Directors, as the case may be, exceeds the number of votes cast not to remove such director(s) or the entire Board of Directors, as the case may be. Cause for removal shall be deemed to exist only if the director(s) whose removal is proposed has been convicted in a court of competent jurisdiction of a felony or has been adjudged by a court of competent jurisdiction to be liable for fraudulent or dishonest conduct, or gross abuse of authority or discretion, with respect to the Corporation, and such conviction or adjudication has become final and non-appealable. If a director is elected by a voting group of shareholders, only the shareholders of that voting group may participate in the vote to remove such director. A director may not be removed by the shareholders at a meeting unless the notice of the meeting states that the purpose, or one of the purposes, of the meeting is removal of the director. If any directors are so removed, new directors may be elected at the same meeting.

6. To the fullest extent permitted by the North Carolina Business Corporation Act as it exists or may hereafter be amended, no person who is serving or who has served as a director of the Corporation shall be personally liable to the Corporation or any of its shareholders for monetary damages for breach of duty as a director. No amendment or repeal of this Article, nor the adoption of any provision to these Restated Articles of Incorporation inconsistent with this Article, shall eliminate or reduce the protection granted herein with respect to any matter that occurred prior to such amendment, repeal or adoption.

7. The provision of Article 9 of the North Carolina Business Corporation Act entitled "The North Carolina Shareholder Protection Act" and of Article 9A entitled "The North Carolina Control Share Acquisition Act" shall not be applicable to the Corporation.

8. (a) Any purchase by the Corporation of shares of Voting Stock (as hereinafter defined) from an Interested Shareholder (as hereinafter defined) who has beneficially owned such securities for less than two years prior to the date of such purchase or any agreement in respect thereof, other than pursuant to an offer to the holders of all of the outstanding shares of the same class as those so purchased, at a per share price in excess of the Market Price (as hereinafter defined), at the time of such purchase or any agreement in respect thereof (whichever is earlier), of the shares so purchased, shall require the affirmative vote of the holders of a majority of the voting power of the Voting Stock not beneficially owned by the Interested Shareholder, voting together as a single class.

(b) In addition to any affirmative vote required by law or these Restated Articles of Incorporation:

- (i) Any merger or consolidation of the Corporation or any Subsidiary (as hereinafter defined) with (i) any Interested Shareholder or (ii) any other corporation (whether or not itself an Interested Shareholder) which is, or after such merger or consolidation would be, an Affiliate (as hereinafter defined) of an Interested Shareholder;
- (ii) Any sale, lease, exchange, mortgage, pledge, transfer, or other disposition (in one transaction or a series of transactions) to or with any Interested Shareholder or any Affiliate of any Interested Shareholder of any assets of the Corporation or any Subsidiary having an aggregate Fair Market Value (as hereinafter defined) of \$10,000,000 or more;
- (iii) The issuance or transfer by the Corporation or any Subsidiary (in one transaction or a series of transactions) of any equity securities (including any securities that are convertible into equity securities) of the Corporation or any Subsidiary having an aggregate Fair Market Value of \$10,000,000 or more to any Interested Shareholder or any Affiliate of any Interested Shareholder in exchange for cash, securities, or other property (or combination thereof);
- (iv) The adoption of any plan or proposal for the liquidation or dissolution of the Corporation proposed by or on behalf of an Interested Shareholder or any Affiliate of any Interested Shareholder; or
- (v) Any reclassification of securities (including any reverse stock split), or recapitalization of the Corporation, or any merger or consolidation of the Corporation with any of its Subsidiaries, or any other transaction (whether or not with or into or otherwise involving an Interested Shareholder) which has the effect, directly or indirectly, of increasing the proportionate share of the outstanding shares of any class of equity (including any securities that are convertible into equity securities) securities of the Corporation or any Subsidiary which is directly or indirectly owned by any Interested Shareholder or any Affiliate of any Interested Shareholder

shall require the affirmative vote of the holders of not less than (i) 66-2/3% of the voting power of the Voting Stock not beneficially owned by any Interested Shareholder, voting together as a single class, and (ii) 80% of the voting power of all Voting Stock, voting together as a single class; provided, however, that no such vote shall be required for (A) the purchase by the Corporation of shares of Voting Stock from an Interested Shareholder unless such vote is required by Subparagraph (a) of this Article 8, or (B) any transaction approved by a majority of the Disinterested Directors (as hereinafter defined).

(c) For the purpose of this Article 8:

- (i) A “person” shall mean any individual, firm, corporation, partnership, or other entity.
- (ii) “Voting Stock” shall mean all outstanding shares of capital stock of the Corporation entitled to vote generally in the election of directors and each reference to a proportion of shares of Voting Stock shall refer to such proportion of the votes entitled to be cast by such shares.
- (iii) “Interested Shareholder” shall mean any person who or which:
 - (A) is the beneficial owner, directly or indirectly, of 5% or more of the outstanding Voting Stock;
 - (B) is an Affiliate of the Corporation and at any time within the two-year period immediately prior to the date as of which a determination is being made was the beneficial owner, directly or indirectly, of 5% or more of the outstanding Voting Stock; or
 - (C) is an assignee of or has otherwise succeeded to any shares of Voting Stock which were at any time within the two-year period immediately prior to the date as of which a determination is being made beneficially owned by any person described in subparagraphs (c) (iii) (A) or (B) of this Article 8 if such assignment or succession shall have occurred in the course of a transaction or series of transactions not involving a public offering within the meaning of the Securities Act of 1933.

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- (iv) A person shall be a “beneficial owner” of any Voting Stock:
 - (A) which such person or any of its Affiliates or Associates (as hereinafter defined) beneficially owns, directly or indirectly;
 - (B) which such person or any of its Affiliates or Associates has (a) the right to acquire (whether such right is exercisable immediately or only after the passage of time) pursuant to any agreement, arrangement, or understanding, or upon the exercise of conversion rights, exchange rights, warrants or options, or otherwise, or (b) the right to vote pursuant to any agreement, arrangement, or understanding; or
 - (C) which are beneficially owned, directly or indirectly, by any other person with which such person or any of its Affiliates or Associates has any agreement, arrangement, or understanding for the purpose of acquiring, holding, voting, or disposing of any shares of Voting Stock.
 - (v) For the purposes of determining whether a person is an Interested Shareholder, the number of shares of Voting Stock deemed to be outstanding shall include shares deemed owned through application of subparagraph (c) (iv) of this Article 8, but shall not include any other shares of Voting Stock which may be issuable pursuant to any agreement, arrangement, or understanding, or upon exercise of conversion rights, warrants or options, or otherwise.
 - (vi) “Affiliate” and “Associate” shall have the respective meanings ascribed to such terms in Rule 12b-2 of the General Rules and Regulations under the Securities Exchange Act of 1934, as in effect on November 1, 1993.
 - (vii) “Subsidiary” shall mean any corporation of which a majority of the shares thereof entitled to vote generally in the election of directors is owned, directly or indirectly, by the Corporation.

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- (viii) "Market Price" shall mean: the last closing sale price immediately preceding the time in question of a share of the stock in question on the Composite Tape for New York Stock Exchange — Listed Stocks, or if such stock is not quoted on the Composite Tape, on the New York Stock Exchange, Inc., or if such stock is not listed on such Exchange, on the principal United States securities exchange registered under the Securities Exchange Act of 1934 on which such stock is listed, or if such stock is not listed on any such exchange, the last closing bid quotation with respect to a share of such stock immediately preceding the time in question on the National Association of Securities Dealers, Inc. Automated Quotations System or any system then in use (or any other system of reporting or ascertaining quotations then available), or if such stock is not so quoted, the Fair Market Value at the time in question of a share of such stock as determined by the Board of Directors in good faith.
 - (ix) "Fair Market Value" shall mean:
 - (A) in the case of stock, the Market Price, and
 - (B) in the case of property other than cash or stock, the fair market value of such property on the date in question as determined by the Board of Directors in good faith.
 - (x) "Disinterested Director" shall mean any member of the Board of Directors of the Corporation who is not an Affiliate or Associate of an Interested Shareholder and was a member of the Board of Directors prior to the time that the Interested Shareholder became an Interested Shareholder, and any successor of a Disinterested Director who is not an Affiliate or Associate of an Interested Shareholder as is recommended to succeed a Disinterested Director by a majority of Disinterested Directors then on the Board of Directors.

(d) A majority of the Disinterested Directors shall have the power and duty to determine for the purposes of this Article 8, on the basis of information known to them after reasonable inquiry, whether a person is an Interested Shareholder or a transaction or series of transactions constitutes one of the transactions described in subparagraph (b) of this Article 8.

(e) Notwithstanding any other provisions of these Restated Articles of Incorporation (and notwithstanding the fact that a lesser percentage may be specified by law, these Restated Articles of Incorporation, or the Bylaws of the Corporation), the affirmative vote of not less than (i) 66-2/3% of the voting power of the Voting Stock not beneficially owned by any Interested Shareholder, voting together as a single class, and (ii) 80% of the voting power of all Voting Stock, voting together as a single class, shall be required to amend, repeal, or adopt any provisions inconsistent with this Article 8.

9. At any time in the interval between annual meetings, special meetings of the shareholders may be called by the Chairman of the Board, President, or by the Board of Directors or the Executive Committee by vote at a meeting or in writing with or without a meeting. Special meetings of the shareholders may not be called by any other person or persons.

These Restated Articles of Incorporation shall be effective at 8:00 a.m. (EDT) on the date of filing of these Restated Articles of Incorporation with the Secretary of State of North Carolina.

This the 18th day of October 1996.

MARTIN MARIETTA MATERIALS, INC.

By: /s/ Bruce A. Deerson
Bruce A. Deerson
Vice President and General Counsel

ARTICLES OF AMENDMENT
OF MARTIN MARIETTA MATERIALS, INC.
WITH RESPECT TO THE
JUNIOR PARTICIPATING CLASS A PREFERRED STOCK

Pursuant to Sections 55-6-02 and 55-10-06
of the Business Corporation Act
of the State of North Carolina

Martin Marietta Materials, Inc., a corporation organized and existing under the Business Corporation Act of the State of North Carolina (the "Corporation"), does hereby submit these Articles of Amendment for the purpose of amending its articles of incorporation to fix the preferences, limitations and relative rights of a series of a class of its shares:

1. The name of the Corporation is MARTIN MARIETTA MATERIALS, INC.

2. Pursuant to the authority conferred upon the Board of Directors by Article 2 of the Articles of Incorporation of this Corporation and in accordance with the provisions of Section 55-6-02 of the North Carolina Business Corporation Act, the Board of Directors has duly adopted an amendment to the Articles of Incorporation of the Corporation determining certain preferences, privileges, limitations and relative rights (within the limits set forth in Section 55-6-01 of the North Carolina Business Corporation Act) of a new series of the Corporation's Junior Participating Class A Preferred Stock, par value \$0.01, before the issuance of any shares of such series, the text of which amendment reads in full as follows:

RESOLVED, that pursuant to the authority vested in the Board of Directors of this Corporation in accordance with the provisions of its Articles of Incorporation, as amended, a series of Preferred Stock of the Corporation be and it hereby is created, and that the designation and amount thereof and the voting powers, preferences and relative, participating, optional and other special rights of the shares of such series, and the qualifications, limitations and restrictions thereof are as follows:

Section 1. Designation and Amount. The shares of such series shall be designated as "Class A Preferred Stock" and the number of shares constituting such series shall be 100,000.

Section 2. Dividends and Distributions.

(A) Subject to the prior and superior rights of the holders of any shares of any series of Preferred Stock ranking prior and superior to the shares of Class A Preferred Stock with respect to dividends, the holders of shares of Class A Preferred Stock shall

be entitled to receive, when, as and if declared by the Board of Directors out of funds legally available for the purpose, quarterly dividends payable in cash on the first day of January, April, July and October in each year (each such date being referred to herein as a "Quarterly Dividend Payment Date"), commencing on the first Quarterly Dividend Payment Date after the first issuance of a share or fraction of a share of Class A Preferred Stock, in an amount per share (rounded to the nearest cent), subject to the provision for adjustment hereinafter set forth, equal to 1000 times the aggregate per share amount of all cash dividends, and 1000 times the aggregate per share amount (payable in kind) of all non-cash dividends or other distributions other than a dividend payable in shares of Common Stock or a subdivision of the outstanding shares of Common Stock (by reclassification or otherwise), declared on the Common Stock, par value \$.01 per share, of the Corporation (the "Common Stock") since the immediately preceding Quarterly Dividend Payment Date, or, with respect to the first Quarterly Dividend Payment Date, since the first issuance of any share or fraction of a share of Class A Preferred Stock. In the event the Corporation shall at any time (i) declare any dividend on Common Stock payable in shares of Common Stock, (ii) subdivide the outstanding Common Stock, or (iii) combine the outstanding Common Stock into a smaller number of shares, then in each such case the amount to which holders of shares of Class A Preferred Stock were entitled immediately prior to such event under clause (b) of the preceding sentence shall be adjusted by multiplying such amount by a fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

(B) The Corporation shall declare a dividend or distribution on the Class A Preferred Stock as provided in paragraph (A) above immediately after it declares a dividend or distribution on the Common Stock (other than a dividend payable in shares of Common Stock).

(C) Dividends shall begin to accrue and be cumulative on outstanding shares of Class A Preferred Stock from the Quarterly Dividend Payment Date next preceding the date of issue of such shares of Class A Preferred Stock, unless the date of issue of such shares is prior to the record date for the first Quarterly Dividend Payment Date, in which case dividends on such shares shall begin to accrue from the date of issue of such shares, or unless the date of issue is a Quarterly Dividend Payment Date or is a date after the record date for the determination of holders of shares of Class A Preferred Stock entitled to receive a quarterly dividend and before such Quarterly Dividend Payment Date, in either of which events such dividends shall begin to accrue and be cumulative from such Quarterly Dividend Payment Date. Accrued but unpaid dividends shall not bear interest. Dividends paid on the shares of Class A Preferred Stock in an amount less than the total amount of such

dividends at the time accrued and payable on such shares shall be allocated pro rata on a share-by-share basis among all such shares at the time outstanding. The Board of Directors may fix a record date for the determination of holders of shares of Class A Preferred Stock entitled to receive payment of a dividend or distribution declared thereon, which record date shall be no more than thirty (30) days prior to the date fixed for the payment thereof.

Section 3. Voting Rights. The holders of shares of Class A Preferred Stock shall have the following voting rights:

(A) Subject to the provision for adjustment hereinafter set forth, each share of Class A Preferred Stock shall entitle the holder thereof to 1000 votes on all matters submitted to a vote of the stockholders of the Corporation. In the event the Corporation shall at any time (i) declare any dividend on Common Stock payable in shares of Common Stock, (ii) subdivide the outstanding Common Stock, or (iii) combine the outstanding Common Stock into a smaller number of shares, then in each such case the number of votes per share to which holders of shares of Class A Preferred Stock were entitled immediately prior to such event shall be adjusted by multiplying such number by a fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

(B) Except as otherwise provided herein or by law, the holders of shares of Class A Preferred Stock and the holders of shares of Common Stock shall vote together as one class on all matters submitted to a vote of stockholders of the Corporation.

(C) (i) If at any time dividends on any Class A Preferred Stock shall be in arrears in an amount equal to four (4) quarterly dividends thereon, the occurrence of such contingency shall mark the beginning of a period (herein called a "default period") which shall extend until such time when all accrued and unpaid dividends for all previous quarterly dividend periods and for the current quarterly dividend period on all shares of Class A Preferred Stock then outstanding shall have been declared and paid or set apart for payment. During each default period, all holders of Preferred Stock (including holders of the Class A Preferred Stock) with dividends in arrears in an amount equal to four (4) quarterly dividends thereon, voting as a class, irrespective of series, shall have the right to elect two (2) Directors.

(ii) During any default period, such voting right of the holders of Class A Preferred Stock may be exercised initially at a special meeting called pursuant to subparagraph (iii) of this Section 3(C) or at any annual meeting of stockholders, and thereafter at annual meetings of stockholders, provided that neither such voting right nor the right of the holders of any other

series of Preferred Stock, if any, to increase, in certain cases, the authorized number of Directors shall be exercised unless the holders of ten percent (10%) in number of shares of Preferred Stock outstanding shall be present in Person or by proxy. The absence of a quorum of the holders of Common Stock shall not affect the exercise by the holders of Preferred Stock of such voting right. At any meeting at which the holders of Preferred Stock shall exercise such voting right initially during an existing default period, they shall have the right, voting as a class, to elect Directors to fill such vacancies, if any, in the Board of Directors as may then exist up to two (2) Directors or, if such right is exercised at an annual meeting, to elect two (2) Directors. If the number which may be so elected at any special meeting does not amount to the required number, the holders of the Preferred Stock shall have the right to make such increase in the number of Directors as shall be necessary to permit the election by them of the required number. After the holders of the Preferred Stock shall have exercised their right to elect Directors in any default period and during the continuance of such period, the number of Directors shall not be increased or decreased except by vote of the holders of Preferred Stock as herein provided or pursuant to the rights of any equity securities ranking senior to or pari passu with the Class A Preferred Stock.

(iii) Unless the holders of Preferred Stock shall, during an existing default period, have previously exercised their right to elect Directors, the Board of Directors may order, or any stockholder or stockholders owning in the aggregate not less than ten percent (10%) of the total number of shares of Preferred Stock outstanding, irrespective of series, may request, the calling of a special meeting of the holders of Preferred Stock, which meeting shall thereupon be called by the President, a Vice-President or the Secretary of the Corporation. Notice of such meeting and of any annual meeting at which holders of Preferred Stock are entitled to vote pursuant to this paragraph (C) (iii) shall be given to each holder of record of Preferred Stock by mailing a copy of such notice to him at his last address as the same appears on the books of the Corporation. Such meeting shall be called for a time not earlier than twenty (20) days and not later than sixty (60) days after such order or request or in default of the calling of such meeting within sixty (60) days after such order or request, such meeting may be called on similar notice by any stockholder or stockholders owning in the aggregate not less than ten percent (10%) of the total number of shares of Preferred Stock outstanding. Notwithstanding the provisions of this paragraph (C) (iii), no such special meeting shall be called during the period within sixty (60) days immediately preceding the date fixed for the next annual meeting of the stockholders.

(iv) In any default period, the holders of Common Stock, and other classes of stock of the Corporation if applicable, shall continue to be entitled to elect the whole number of Directors

until the holders of Preferred Stock shall have exercised their right to elect two (2) Directors voting as a class, after the exercise of which right (x) the Directors so elected by the holders of Preferred Stock shall continue in office until their successors shall have been elected by such holders or until the expiration of the default period, and (y) any vacancy in the Board of Directors may (except as provided in paragraph (C) (ii) of this Section 3) be filled by vote of a majority of the remaining Directors theretofore elected by the holders of the class of stock which elected the Director whose office shall have become vacant. References in this paragraph (C) to Directors elected by the holders of a particular class of stock shall include Directors elected by such Directors to fill vacancies as provided in clause (y) of the foregoing sentence.

(v) Immediately upon the expiration of a default period, (x) the right of the holders of Preferred Stock as a class to elect Directors shall cease, (y) the term of any Directors elected by the holders of Preferred Stock as a class shall terminate, and (z) the number of Directors shall be such number as may be provided for in the articles of incorporation or by-laws irrespective of any increase made pursuant to the provisions of paragraph (C) (ii) of this Section 3 (such number being subject, however, to change thereafter in any manner provided by law or in the articles of incorporation or by-laws). Any vacancies in the Board of Directors effected by the provisions of clauses (y) and (z) in the preceding sentence may be filled by a majority of the remaining Directors.

(D) Except as set forth herein, holders of Class A Preferred Stock shall have no special voting rights and their consent shall not be required (except to the extent they are entitled to vote with holders of Common Stock as set forth herein) for taking any corporate action.

Section 4. Certain Restrictions.

(A) Whenever quarterly dividends or other dividends or distributions payable on the Class A Preferred Stock as provided in Section 2 are in arrears, thereafter and until all accrued and unpaid dividends and distributions, whether or not declared, on shares of Class A Preferred Stock outstanding shall have been paid in full, the Corporation shall not:

(i) declare or pay dividends on, make any other distributions on, or redeem or purchase or otherwise acquire for consideration any shares of stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Class A Preferred Stock;

(ii) declare or pay dividends on or make any other distributions on any shares of stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Class A Preferred Stock, except dividends paid ratably on the Class A Preferred Stock and all such parity stock on which dividends are payable or in arrears in proportion to the total amounts to which the holders of all such shares are then entitled;

(iii) redeem or purchase or otherwise acquire for consideration shares of any stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Class A Preferred Stock, provided that the Corporation may at any time redeem, purchase or otherwise acquire shares of any such parity stock in exchange for shares of any stock of the Corporation ranking junior (either as to dividends or upon dissolution, liquidation or winding up) to the Class A Preferred Stock;

(iv) purchase or otherwise acquire for consideration any shares of Class A Preferred Stock, or any shares of stock ranking on a parity with the Class A Preferred Stock, except in accordance with a purchase offer made in writing or by publication (as determined by the Board of Directors) to all holders of such shares upon such terms as the Board of Directors, after consideration of the respective annual dividend rates and other relative rights and preferences of the respective series and classes, shall determine in good faith will result in fair and equitable treatment among the respective series or classes.

(B) The Corporation shall not permit any subsidiary of the Corporation to purchase or otherwise acquire for consideration any shares of stock of the Corporation unless the Corporation could, under paragraph (A) of this Section 4, purchase or otherwise acquire such shares at such time and in such manner.

Section 5. Reacquired Shares. Any shares of Class A Preferred Stock purchased or otherwise acquired by the Corporation in any manner whatsoever shall be retired and canceled promptly after the acquisition thereof. All such shares shall upon their cancellation become authorized but unissued shares of Preferred Stock and may be reissued as part of a new series of Preferred Stock to be created by resolution or resolutions of the Board of Directors, subject to the conditions and restrictions on issuance set forth herein.

Section 6. Liquidation, Dissolution or Winding Up. (A) Upon any liquidation (voluntary or otherwise), dissolution or winding up of the Corporation, no distribution shall be made to the holders of shares of stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Class A Preferred Stock unless, prior thereto, the holders of shares of Class A Preferred Stock shall have received \$10.00 per share, plus an amount equal to accrued and unpaid dividends and distributions thereon, whether or not declared, to the date of such payment. Thereafter, the holders of the Class A Preferred Stock shall be entitled to receive an aggregate amount per share, subject to the provision for adjustment hereinafter set forth, equal to 1000 times

the aggregate amount to be distributed per share to holders of shares of Common Stock. Following the payment of the foregoing, holders of Class A Preferred Stock and holders of shares of Common Stock shall receive their ratable and proportionate share of the remaining assets to be distributed.

(B) In the event, however, that there are not sufficient assets available to permit payment in full of the Class A Preferred Stock liquidation preference and the liquidation preferences of all other series of preferred stock, if any, which rank on a parity with the Class A Preferred Stock, then such remaining assets shall be distributed ratably to the holders of such parity shares in proportion to their respective liquidation preferences.

(C) In the event the Corporation shall at any time (i) declare any dividend on Common Stock payable in shares of Common Stock, (ii) subdivide the outstanding Common Stock (by reclassification or otherwise), or (iii) combine the outstanding Common Stock into a smaller number of shares, then in each such case the aggregate amount to which holders of shares of the Class A Preferred Stock were entitled immediately prior to such event shall be adjusted by multiplying such amount by a fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

Section 7. Consolidation, Merger, etc. In case the Corporation shall enter into any consolidation, merger, combination or other transaction in which the shares of Common Stock are exchanged for or changed into other stock or securities, cash and/or any other property, then in any such case the shares of Class A Preferred Stock shall at the same time be similarly exchanged or changed in an amount per share (subject to the provision for adjustment hereinafter set forth) equal to 1000 times the aggregate amount of stock, securities, cash and/or any other property (payable in kind), as the case may be, into which or for which each share of Common Stock is changed or exchanged. In the event the Corporation shall at any time (i) declare any dividend on Common Stock payable in shares of Common Stock, (ii) subdivide the outstanding Common Stock (by reclassification or otherwise), or (iii) combine the outstanding Common Stock into a smaller number of shares, then in each such case the amount set forth in the preceding sentence with respect to the exchange or change of shares of Class A Preferred Stock shall be adjusted by multiplying such amount by a fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

Section 8. No Redemption. The shares of Class A Preferred Stock shall not be redeemable.

Section 9. Ranking. The Class A Preferred Stock shall rank junior to all other series of the Corporation's Preferred Stock as to the payment of dividends and the distribution of assets, unless the terms of any such series shall provide otherwise.

Section 10. Amendment. The Articles of incorporation, as amended, of the Corporation shall not be further amended in any manner which would materially alter or change the powers, preferences or special rights of the Class A Preferred Stock so as to affect them adversely without the affirmative vote of the holders of a majority or more of the outstanding shares of Class A Preferred Stock voting separately as a Class.

Section 11. Fractional Shares. Class A Preferred Stock may be issued in fractions of a share which shall entitle the holder, in proportion to such holder's fractional shares, to exercise voting rights, receive dividends, participate in distributions and to have the benefit of all other rights of holders of Class A Preferred Stock.

3. The date on which the foregoing amendment to the Articles of Incorporation of the Corporation was adopted was July 23, 1996.

4. The foregoing amendment to the Articles of Incorporation was duly adopted by the Board of Directors of the Corporation, and shareholder action was not required to adopt such amendment because the Articles of Incorporation permit the Board of Directors to fix designations, preferences, limitations and relative rights of series of the Corporation's preferred stock without shareholder approval and Section 55-6-03 of the North Carolina Business Corporation Act provides that articles of amendment so establishing the preferences, limitations or relative rights of a class or series of stock are effective without shareholder action.

5. These Articles of Amendment shall be effective at 8:01 a.m. (EDT) on the date of filing of these Articles of Amendment with the Secretary of State of North Carolina.

IN WITNESS WHEREOF, the undersigned has executed and subscribed this Articles of Amendment on this the 18th day of October, 1996.

MARTIN MARIETTA MATERIALS, INC.

By: /s/ Bruce A. Deerson

Bruce A. Deerson

Vice President and General Counsel

**ARTICLES OF AMENDMENT
WITH RESPECT TO THE
JUNIOR PARTICIPATING CLASS B PREFERRED STOCK OF
MARTIN MARIETTA MATERIALS, INC.**

**Pursuant to Sections 55-6-02 and 55-10-06
of the Business Corporation Act
of the State of North Carolina**

Martin Marietta Materials, Inc., a corporation organized and existing under the Business Corporation Act of the State of North Carolina (the "Corporation"), does hereby submit these Articles of Amendment for the purpose of amending its Articles of Incorporation to fix the preferences, limitations and relative rights of a series of a class of its shares:

1. The name of the Corporation is MARTIN MARIETTA MATERIALS, INC.

2. Pursuant to the authority conferred upon the Board of Directors by Article 2 of the Articles of Incorporation of this Corporation and in accordance with the provisions of Section 55-6-02 of the North Carolina Business Corporation Act, the Board of Directors has duly adopted an amendment to the Articles of Incorporation of the Corporation determining certain preferences, privileges, limitations and relative rights (within the limits set forth in Section 55-6-01 of the North Carolina Business Corporation Act) of a new series of the Corporation's Junior Participating Class B Preferred Stock, par value \$0.01, before the issuance of any shares of such series, the text of which amendment reads in full as follows:

RESOLVED, that pursuant to the authority vested in the Board of Directors of this Corporation in accordance with the provisions of its Articles of Incorporation, as amended, a series of Preferred Stock of the Corporation be and it hereby is created, and that the designation and amount thereof and the voting powers, preferences and relative, participating, optional and other special rights of the shares of such series, and the qualifications, limitations and restrictions thereof are as follows:

Section 1. Designation and Amount. The shares of such series shall be designated as "Class B Preferred Stock" and the number of shares constituting such series shall be 200,000.

Section 2. Dividends and Distributions.

(A) Subject to the prior and superior rights of the holders of any shares of any series of Preferred Stock ranking prior and superior to the shares of Class B Preferred Stock with respect to dividends, the holders of shares of Class B Preferred Stock shall be entitled to receive, when, as and if declared by the Board of Directors out of funds legally available for the purpose, quarterly dividends payable in cash on the first day of January, April, July and October in each year (each such date being referred to herein as a "Quarterly Dividend Payment Date"), commencing on the first Quarterly Dividend Payment Date after the first issuance of a share or fraction of a share of Class B Preferred Stock, in an amount per share (rounded to the nearest cent), subject to the provision for adjustment hereinafter set forth, equal to 1000 times the

aggregate per share amount of all cash dividends, and 1000 times the aggregate per share amount (payable in kind) of all non-cash dividends or other distributions other than a dividend payable in shares of Common Stock or a subdivision of the outstanding shares of Common Stock (by reclassification or otherwise), declared on the Common Stock, par value \$.01 per share, of the Corporation (the "Common Stock") since the immediately preceding Quarterly Dividend Payment Date, or, with respect to the first Quarterly Dividend Payment Date, since the first issuance of any share or fraction of a share of Class B Preferred Stock. In the event the Corporation shall at any time (i) declare any dividend on Common Stock payable in shares of Common Stock, (ii) subdivide the outstanding Common Stock, or (iii) combine the outstanding Common Stock into a smaller number of shares, then in each such case the amount to which holders of shares of Class B Preferred Stock were entitled immediately prior to such event under clause (b) of the preceding sentence shall be adjusted by multiplying such amount by a fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

(B) The Corporation shall declare a dividend or distribution on the Class B Preferred Stock as provided in paragraph (A) above immediately after it declares a dividend or distribution on the Common Stock (other than a dividend payable in shares of Common Stock).

(C) Dividends shall begin to accrue and be cumulative on outstanding shares of Class B Preferred Stock from the Quarterly Dividend Payment Date next preceding the date of issue of such shares of Class B Preferred Stock, unless the date of issue of such shares is prior to the record date for the first Quarterly Dividend Payment Date, in which case dividends on such shares shall begin to accrue from the date of issue of such shares, or unless the date of issue is a Quarterly Dividend Payment Date or is a date after the record date for the determination of holders of shares of Class B Preferred Stock entitled to receive a quarterly dividend and before such Quarterly Dividend Payment Date, in either of which events such dividends shall begin to accrue and be cumulative from such Quarterly Dividend Payment Date. Accrued but unpaid dividends shall not bear interest. Dividends paid on the shares of Class B Preferred Stock in an amount less than the total amount of such dividends at the time accrued and payable on such shares shall be allocated pro rata on a share-by-share basis among all such shares at the time outstanding. The Board of Directors may fix a record date for the determination of holders of shares of Class B Preferred Stock entitled to receive payment of a dividend or distribution declared thereon, which record date shall be no more than thirty (30) days prior to the date fixed for the payment thereof.

Section 3. Voting Rights. The holders of shares of Class B Preferred Stock shall have the following voting rights:

(A) Subject to the provision for adjustment hereinafter set forth, each share of Class B Preferred Stock shall entitle the holder thereof to 1000 votes on all matters submitted to a vote of the shareholders of the Corporation. In the event the Corporation shall at any time (i) declare any dividend on Common Stock payable in shares of Common Stock, (ii) subdivide the outstanding Common Stock, or (iii) combine the outstanding Common Stock into a smaller number of shares, then in each such case the number of votes per share to which holders of shares of Class B Preferred Stock were entitled immediately prior to such event shall be adjusted

by multiplying such number by a fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

(B) Except as otherwise provided herein or by law, the holders of shares of Class B Preferred Stock and the holders of shares of Common Stock shall vote together as one class on all matters submitted to a vote of shareholders of the Corporation.

(C) (i) If at any time dividends on any Class B Preferred Stock shall be in arrears in an amount equal to four (4) quarterly dividends thereon, the occurrence of such contingency shall mark the beginning of a period (herein called a "default period") which shall extend until such time when all accrued and unpaid dividends for all previous quarterly dividend periods and for the current quarterly dividend period on all shares of Class B Preferred Stock then outstanding shall have been declared and paid or set apart for payment. During each default period, all holders of Preferred Stock (including holders of the Class B Preferred Stock) with dividends in arrears in an amount equal to four (4) quarterly dividends thereon, voting as a class, irrespective of series, shall have the right to elect two (2) Directors.

(ii) During any default period, such voting right of the holders of Class B Preferred Stock may be exercised initially at a special meeting called pursuant to subparagraph (iii) of this Section 3(C) or at any annual meeting of shareholders, and thereafter at annual meetings of shareholders, provided that neither such voting right nor the right of the holders of any other series of Preferred Stock, if any, to increase, in certain cases, the authorized number of Directors shall be exercised unless the holders of ten percent (10%) in number of shares of Preferred Stock outstanding shall be present in Person or by proxy. The absence of a quorum of the holders of Common Stock shall not affect the exercise by the holders of Preferred Stock of such voting right. At any meeting at which the holders of Preferred Stock shall exercise such voting right initially during an existing default period, they shall have the right, voting as a class, to elect Directors to fill such vacancies, if any, in the Board of Directors as may then exist up to two (2) Directors or, if such right is exercised at an annual meeting, to elect two (2) Directors. If the number which may be so elected at any special meeting does not amount to the required number, the holders of the Preferred Stock shall have the right to make such increase in the number of Directors as shall be necessary to permit the election by them of the required number. After the holders of the Preferred Stock shall have exercised their right to elect Directors in any default period and during the continuance of such period, the number of Directors shall not be increased or decreased except by vote of the holders of Preferred Stock as herein provided or pursuant to the rights of any equity securities ranking senior to or pari passu with the Class B Preferred Stock.

(iii) Unless the holders of Preferred Stock shall, during an existing default period, have previously exercised their right to elect Directors, the Board of Directors may order, or any shareholder or shareholders owning in the aggregate not less than ten percent (10%) of the total number of shares of Preferred Stock outstanding, irrespective of series, may request, the calling of a special meeting of the holders of Preferred Stock, which meeting shall thereupon be called by the President, a Vice-President or the Secretary of the Corporation. Notice of such meeting and of any annual meeting at which holders of Preferred Stock are entitled to vote pursuant to this paragraph (C)(iii) shall be given to each holder of record of

Preferred Stock by mailing a copy of such notice to him at his last address as the same appears on the books of the Corporation. Such meeting shall be called for a time not earlier than twenty (20) days and not later than sixty (60) days after such order or request or in default of the calling of such meeting within sixty (60) days after such order or request, such meeting may be called on similar notice by any shareholder or shareholders owning in the aggregate not less than ten percent (10%) of the total number of shares of Preferred Stock outstanding. Notwithstanding the provisions of this paragraph (C)(iii), no such special meeting shall be called during the period within sixty (60) days immediately preceding the date fixed for the next annual meeting of the shareholders.

(iv) In any default period, the holders of Common Stock, and other classes of stock of the Corporation if applicable, shall continue to be entitled to elect the whole number of Directors until the holders of Preferred Stock shall have exercised their right to elect two (2) Directors voting as a class, after the exercise of which right (x) the Directors so elected by the holders of Preferred Stock shall continue in office until their successors shall have been elected by such holders or until the expiration of the default period, and (y) any vacancy in the Board of Directors may (except as provided in paragraph (C)(ii) of this Section 3) be filled by vote of a majority of the remaining Directors theretofore elected by the holders of the class of stock which elected the Director whose office shall have become vacant. References in this paragraph (C) to Directors elected by the holders of a particular class of stock shall include Directors elected by such Directors to fill vacancies as provided in clause (y) of the foregoing sentence.

(v) Immediately upon the expiration of a default period, (x) the right of the holders of Preferred Stock as a class to elect Directors shall cease, (y) the term of any Directors elected by the holders of Preferred Stock as a class shall terminate, and (z) the number of Directors shall be such number as may be provided for in the Articles of Incorporation or By-laws irrespective of any increase made pursuant to the provisions of paragraph (C)(ii) of this Section 3 (such number being subject, however, to change thereafter in any manner provided by law or in the Articles of Incorporation or By-laws). Any vacancies in the Board of Directors effected by the provisions of clauses (y) and (z) in the preceding sentence may be filled by a majority of the remaining Directors.

(D) Except as set forth herein, holders of Class B Preferred Stock shall have no special voting rights and their consent shall not be required (except to the extent they are entitled to vote with holders of Common Stock as set forth herein) for taking any corporate action.

Section 4. Certain Restrictions.

(A) Whenever quarterly dividends or other dividends or distributions payable on the Class B Preferred Stock as provided in Section 2 are in arrears, thereafter and until all accrued and unpaid dividends and distributions, whether or not declared, on shares of Class B Preferred Stock outstanding shall have been paid in full, the Corporation shall not:

(i) declare or pay dividends on, make any other distributions on, or redeem or purchase or otherwise acquire for consideration any shares of stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Class B Preferred Stock;

(ii) declare or pay dividends on or make any other distributions on any shares of stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Class B Preferred Stock, except dividends paid ratably on the Class B Preferred Stock and all such parity stock on which dividends are payable or in arrears in proportion to the total amounts to which the holders of all such shares are then entitled;

(iii) redeem or purchase or otherwise acquire for consideration shares of any stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Class B Preferred Stock, provided that the Corporation may at any time redeem, purchase or otherwise acquire shares of any such parity stock in exchange for shares of any stock of the Corporation ranking junior (either as to dividends or upon dissolution, liquidation or winding up) to the Class B Preferred Stock;

(iv) purchase or otherwise acquire for consideration any shares of Class B Preferred Stock, or any shares of stock ranking on a parity with the Class B Preferred Stock, except in accordance with a purchase offer made in writing or by publication (as determined by the Board of Directors) to all holders of such shares upon such terms as the Board of Directors, after consideration of the respective annual dividend rates and other relative rights and preferences of the respective series and classes, shall determine in good faith will result in fair and equitable treatment among the respective series or classes.

(B) The Corporation shall not permit any subsidiary of the Corporation to purchase or otherwise acquire for consideration any shares of stock of the Corporation unless the Corporation could, under paragraph (A) of this Section 4, purchase or otherwise acquire such shares at such time and in such manner.

Section 5. Reacquired Shares. Any shares of Class B Preferred Stock purchased or otherwise acquired by the Corporation in any manner whatsoever shall be retired and canceled promptly after the acquisition thereof. All such shares shall upon their cancellation become authorized but unissued shares of Preferred Stock and may be reissued as part of a new series of Preferred Stock to be created by resolution or resolutions of the Board of Directors, subject to the conditions and restrictions on issuance set forth herein.

Section 6. Liquidation, Dissolution or Winding Up. (A) Upon any liquidation (voluntary or otherwise), dissolution or winding up of the Corporation, no distribution shall be made to the holders of shares of stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Class B Preferred Stock unless, prior thereto, the holders of shares of Class B Preferred Stock shall have received \$10.00 per share, plus an amount equal to accrued and unpaid dividends and distributions thereon, whether or not declared, to the date of such payment. Thereafter, the holders of the Class B Preferred Stock shall be entitled to receive an aggregate amount per share, subject to the provision for adjustment hereinafter set forth, equal to 1000 times the aggregate amount to be distributed per share to holders of shares of Common Stock. Following the payment of the foregoing, holders of Class B Preferred Stock and holders of shares of Common Stock shall receive their ratable and proportionate share of the remaining assets to be distributed.

(B) In the event, however, that there are not sufficient assets available to permit payment in full of the Class B Preferred Stock liquidation preference and the liquidation preferences of all other series of preferred stock, if any, which rank on a parity with the Class B Preferred Stock, then such remaining assets shall be distributed ratably to the holders of such parity shares in proportion to their respective liquidation preferences.

(C) In the event the Corporation shall at any time (i) declare any dividend on Common Stock payable in shares of Common Stock, (ii) subdivide the outstanding Common Stock (by reclassification or otherwise), or (iii) combine the outstanding Common Stock into a smaller number of shares, then in each such case the aggregate amount to which holders of shares of the Class B Preferred Stock were entitled immediately prior to such event shall be adjusted by multiplying such amount by a fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

Section 7. Consolidation, Merger, etc. In case the Corporation shall enter into any consolidation, merger, combination or other transaction in which the shares of Common Stock are exchanged for or changed into other stock or securities, cash and/or any other property, then in any such case the shares of Class B Preferred Stock shall at the same time be similarly exchanged or changed in an amount per share (subject to the provision for adjustment hereinafter set forth) equal to 1000 times the aggregate amount of stock, securities, cash and/or any other property (payable in kind), as the case may be, into which or for which each share of Common Stock is changed or exchanged. In the event the Corporation shall at any time (i) declare any dividend on Common Stock payable in shares of Common Stock, (ii) subdivide the outstanding Common Stock (by reclassification or otherwise), or (iii) combine the outstanding Common Stock into a smaller number of shares, then in each such case the amount set forth in the preceding sentence with respect to the exchange or change of shares of Class B Preferred Stock shall be adjusted by multiplying such amount by a fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such *event* and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

Section 8. No Redemption. The shares of Class B Preferred Stock shall not be redeemable.

Section 9. Ranking. The Class B Preferred Stock shall rank junior to all other series of the Corporation's Preferred Stock as to the payment of dividends and the distribution of assets, unless the terms of any such series shall provide otherwise.

Section 10. The Articles of Incorporation, as amended, of the Corporation shall not be further amended in any manner which would materially alter or change the powers, preferences or special rights of the Class B Preferred Stock so as to affect them adversely without the affirmative vote of the holders of a majority or more of the outstanding shares of Class B Preferred Stock voting separately as a class.

Section 11. Fractional Shares. Class B Preferred Stock may be issued in fractions of a share which shall entitle the holder, in proportion to such holder's fractional shares, to exercise voting rights, receive dividends, participate in distributions and to have the benefit of all other rights of holders of Class B Preferred Stock.

3. The date on which the foregoing amendment to the Articles of Incorporation of the Corporation was adopted was September 27, 2006.

4. The foregoing amendment to the Articles of Incorporation was duly adopted by the Board of Directors of the Corporation, and shareholder action was not required to adopt such amendment because the Articles of Incorporation permit the Board of Directors to fix designations, preferences, limitations and relative rights of series of the Corporation's preferred stock without shareholder approval and Section 55-6-02 of the North Carolina Business Corporation Act provides that articles of amendment so establishing the preferences, limitations or relative rights of a class or series of stock are effective without shareholder action.

5. These Articles of Amendment shall be effective at 8:01 a.m. (EDT) on the date of filing of these Articles of Amendment with the Secretary of State of North Carolina.

IN WITNESS WHEREOF, the undersigned has executed and subscribed this Articles of Amendment on this 17 day of October 2006.

MARTIN MARIETTA MATERIALS, INC.

By: /s/ Roselyn Bar

Name: Roselyn Bar

Title: Senior Vice President and General Counsel

**ARTICLES OF AMENDMENT
OF
MARTIN MARIETTA MATERIALS, INC.**

The undersigned corporation, organized under Chapter 55 of the North Carolina General Statutes, hereby submits these Articles of Amendment for the purpose of amending its Articles of Incorporation:

1. The name of the corporation is Martin Marietta Materials, Inc.

2. The following amendments to the Articles of Incorporation of the corporation were adopted by its shareholders on the 23rd day of May, 2013.

(a) The following is added as new Article 5(b)(iv) immediately following Article 5(b)(iii):

“(iv) Except as otherwise provided in these Articles, for the election of directors, other than with respect to a Contested Election (as defined below), by the shareholders at any annual meeting, or special meeting called for that purpose, at which a quorum is present each director shall be elected by a vote of the majority of the votes cast with respect to the election of such director by the shares entitled to vote in the election of directors at such meeting. In a Contested Election, directors shall be elected by a plurality of the votes cast by the shares entitled to vote in the election of directors at such a meeting at which a quorum is present. For purposes of this Article 5(b)(iv), a “vote of the majority of the votes cast” means a shareholder vote in which the number of votes cast “for” the election of a director exceeds the number of votes cast “against” that director’s election. A “Contested Election” means an election of directors at a meeting of shareholders for the election of directors for which there are more nominees for election to the Board of Directors than open directorships on the Board of Directors to be filled pursuant to that election. In the event that, other than in a Contested Election, a nominee is not elected by a vote of the majority of the votes cast with respect to that nominee’s election, the Board of Directors may decrease the number of directors, fill any vacancy or take other appropriate action.”

(b) The final sentence of Article 5(a) is amended and restated to read as follows:

“By vote of a majority of the Board of Directors or shareholders of the Corporation, the number of directors of the Corporation may be increased or decreased, from time to time, within the range above specified.”

(c) The final sentence of Article 5(b)(i) is deleted in its entirety.

(d) The final sentence of Article 5(b)(ii) is amended and restated to read as follows:

“A director shall hold office until the annual meeting for the year in which his or her term expires, and shall continue to hold office after the expiration of such term only until his or her successor shall be elected and shall qualify or until there is a decrease in the number of directors, subject, in each instance, however, to prior death, resignation, retirement, disqualification or removal from office.”

(e) The first sentence of Article 5(c) is amended and restated to read as follows:

“Except for vacancies resulting from an increase in the number of directors, vacancies in the Board of Directors, including vacancies resulting from the failure of the shareholders to elect the full authorized number of directors, shall be filled only by a majority vote of the directors then in office, though less than a quorum, except that vacancies resulting from removal from office by a vote of the shareholders may be filled by the shareholders at the same meeting at which such removal occurs.”

(f) The final sentence of Article 5(c) is amended and restated to read as follows:

“No decrease in the number of directors constituting the Board of Directors shall shorten the term of any incumbent director.”

3. Shareholder approval of each of the foregoing amendments was obtained as required by Chapter 55 of the North Carolina General Statutes.

4. These Articles of Amendment will become effective upon filing with the North Carolina Secretary of State.

This the 21st day of February, 2014.

MARTIN MARIETTA MATERIALS, INC.

By: /s/ Roselyn R. Bar
Roselyn R. Bar
Senior Vice President, General Counsel and Corporate
Secretary

**ARTICLES OF AMENDMENT
OF
MARTIN MARIETTA MATERIALS, INC.**

The undersigned corporation, organized under Chapter 55 of the North Carolina General Statutes, hereby submits these Articles of Amendment for the purpose of amending its Articles of Incorporation.

1. The name of the Corporation is Martin Marietta Materials, Inc.
2. The following amendment to the Articles of Incorporation of the corporation were adopted by its shareholders on the 19th day of May, 2016.

Articles 5(b)(i) and (ii) of the Articles of Incorporation are amended and restated to read as follows:

“(b) (i) Except to the extent otherwise set forth in this Article 5(b)(i), the directors shall be divided into three classes, designated Class I, Class II and Class III and each class shall consist, as nearly as may be possible, of one-third of the total number of directors constituting the Board of Directors. Prior to the 1997 annual meeting of shareholders, the Board of Directors shall determine which directors shall be designated as Class I, Class II and Class III directors. The term of the initial Class I directors shall terminate on the date of the 1997 annual meeting of shareholders; the term of the initial Class II directors shall terminate on the date of the 1998 annual meeting of shareholders; and the term of the initial Class III directors shall terminate on the date of the 1999 annual meeting of shareholders. At each annual meeting of shareholders beginning in 1997, successors to the class of directors whose term expires at that annual meeting shall be elected for a three-year term. Notwithstanding the foregoing provisions of this Article 5(b)(i), commencing with the 2017 annual meeting of shareholders, directors shall be elected for one-year terms expiring at the next succeeding annual meeting of shareholders and, commencing with the 2019 annual meeting of shareholders, directors shall no longer be divided into classes.

(ii) In the event the number of directors is changed prior to the commencement of the 2019 annual meeting of shareholders, and notwithstanding the foregoing Article 5(b)(i), any increase shall be apportioned to a class or classes of directors whose terms expire at the next succeeding annual meeting of shareholders so that such classes shall consist, as nearly as possible, of the same number of directors and in no case will a decrease in the number of directors shorten the term of any incumbent director. A director shall hold office until the annual meeting for the year in which his or her term expires and until his or her successor shall be elected and shall qualify, subject, however, to prior death, resignation, retirement, disqualification or removal from office.”

3. Shareholder approval of each of the foregoing amendments was obtained as required by Chapter 55 of the North Carolina General Statutes.

4. These Articles of Amendment will become effective upon filing with the North Carolina Secretary of State.

This the 19th day of May, 2016.

MARTIN MARIETTA MATERIALS, INC.

By: /s/ Roselyn R. Bar

Roselyn R. Bar
Executive Vice President, General Counsel
and Corporate Secretary

MARTIN MARIETTA MATERIALS, INC. AND CONSOLIDATED SUBSIDIARIES

COMPUTATION OF RATIO OF EARNINGS TO FIXED CHARGES

For the Year Ended December 31, 2016

(add 000, except ratio)

EARNINGS:	
Earnings before income taxes*	\$607,086
Gain from less than 50%-owned associated companies, net	(10,499)
Interest expense**	81,677
Portion of rents representative of an interest factor	23,585
Adjusted Earnings and Fixed Charges	\$701,848
FIXED CHARGES:	
Interest expense**	\$ 81,677
Capitalized interest	3,543
Portion of rents representative of an interest factor	23,585
Total Fixed Charges	\$108,805
Ratio of Earnings to Fixed Charges	6.45

* Represents earnings from continuing operations plus/minus net (loss) earnings attributable to noncontrolling interests.

** Interest expense excluded \$343 for the interest expense component associated with uncertain tax provisions .

**STATEMENT OF FINANCIAL RESPONSIBILITY AND MANAGEMENT'S REPORT
ON INTERNAL CONTROL OVER FINANCIAL REPORTING**

Management's Statement of Responsibility

The management of Martin Marietta Materials, Inc. ("Martin Marietta" or "Corporation"), is responsible for the consolidated financial statements, the related financial information contained in this 2016 Annual Report and the establishment and maintenance of adequate internal control over financial reporting. The consolidated balance sheets for Martin Marietta, at December 31, 2016 and 2015, and the related consolidated statements of earnings, comprehensive earnings, total equity and cash flows for each of the three years in the period ended December 31, 2016, include amounts based on estimates and judgments and have been prepared in accordance with accounting principles generally accepted in the United States applied on a consistent basis.

A system of internal control over financial reporting is designed to provide reasonable assurance, in a cost-effective manner, that assets are safeguarded, transactions are executed and recorded in accordance with management's authorization, accountability for assets is maintained and financial statements are prepared and presented fairly in accordance with accounting principles generally accepted in the United States. Internal control systems over financial reporting have inherent limitations and may not prevent or detect misstatements. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

The Corporation operates in an environment that establishes an appropriate system of internal control over financial reporting and ensures that the system is maintained, assessed and monitored on a periodic basis. This internal control system includes examinations by internal audit staff and oversight by the Audit Committee of the Board of Directors.

The Corporation's management recognizes its responsibility to foster a strong ethical climate. Management has issued written policy statements that document the Corporation's business code of ethics. The importance of ethical behavior is regularly communicated to all employees through the distribution of the *Code of Ethical Business Conduct* booklet and through ongoing education and review programs designed to create a strong commitment to ethical business practices.

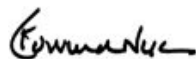
The Audit Committee of the Board of Directors, which consists of four independent, nonemployee directors, meets periodically and separately with management, the independent auditors and the internal auditors to review the activities of each. The Audit Committee meets standards established by the Securities and Exchange Commission and the New York Stock Exchange as they relate to the composition and practices of audit committees.

Management's Report on Internal Control over Financial Reporting

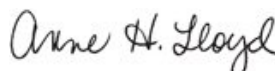
The management of Martin Marietta is responsible for establishing and maintaining adequate control over financial reporting. Management assessed the effectiveness of the Corporation's internal control over financial reporting as of December 31, 2016. In making this assessment, management used the criteria set forth in *Internal Control – Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) ("COSO"). Based on management's assessment under the framework in *Internal Control – Integrated Framework*, management concluded that the Corporation's internal control over financial reporting was effective as of December 31, 2016.

In making this assessment of internal control over financial reporting as of December 31, 2016, management has excluded the internal controls of its newly-acquired Ratliff ready mixed concrete operations, which are included in the consolidated financial statements for the period ended December 31, 2016 and constituted approximately 1% of consolidated total assets as of December 31, 2016 and approximately 1% of net sales for the year ended December 31, 2016.

The 2016 consolidated financial statements and effectiveness of internal control over financial reporting have been audited by PricewaterhouseCoopers, LLP, an independent registered public accounting firm, whose report appears on the following page.



C. Howard Nye
Chairman, President and Chief Executive Officer
February 24, 2017



Anne H. Lloyd
Executive Vice President and Chief Financial Officer

To Board of Directors and Shareholders of Martin Marietta Materials, Inc.

In our opinion, the accompanying consolidated balance sheet as of December 31, 2016 and the related consolidated statements of earnings, comprehensive earnings, total equity, and cash flows for the year then ended present fairly, in all material respects, the financial position of Martin Marietta Materials, Inc. and its subsidiaries at December 31, 2016, and the results of their operations and their cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America. In addition, in our opinion, the financial statement schedule listed in the index appearing under Item 15(a)(2) as of and for the year ended December 31, 2016 presents fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements and financial statement schedule, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express opinions on these financial statements, on the financial statement schedule, and on the Company's internal control over financial reporting based on our integrated audit. We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audit of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinions.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

As described in the Management's Report on Internal Control over Financial Reporting, management has excluded Ratliff Ready-Mix, L.P. from its assessment of internal control over financial reporting as of December 31, 2016 because it was acquired by the Company in a purchase business combination during 2016. We have also excluded Ratliff Ready-Mix, L.P. from our audit of internal control over financial reporting. Ratliff Ready-Mix, L.P. is a wholly-owned subsidiary whose total assets and net sales each represent approximately 1% of the related consolidated financial statement amounts as of and for the year ended December 31, 2016.

/s/ PricewaterhouseCoopers LLP

Raleigh, North Carolina
February 24, 2017

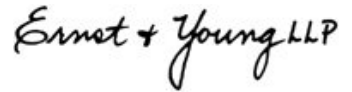
To Board of Directors and Shareholders of Martin Marietta Materials, Inc.

We have audited the accompanying consolidated balance sheets of Martin Marietta Materials, Inc. as of December 31, 2015 and the related consolidated statements of earnings, comprehensive earnings, total equity and cash flows for each of the two years in the period ended December 31, 2015. These financial statements are the responsibility of the Corporation's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Martin Marietta Materials, Inc. at December 31, 2015 and the consolidated results of its operations and its cash flows for each of the two years in the period ended December 31, 2015, in conformity with U.S. generally accepted accounting principles.

Raleigh, North Carolina
February 24, 2017

The signature of Ernst & Young LLP is written in a cursive, handwritten style in black ink.

CONSOLIDATED STATEMENTS OF EARNINGS for years ended December 31

(add 000, except per share)	2016	2015	2014
Net Sales	\$ 3,576,767	\$ 3,268,116	\$ 2,679,095
Freight and delivery revenues	241,982	271,454	278,856
Total revenues	3,818,749	3,539,570	2,957,951
Cost of sales	2,667,801	2,546,349	2,156,735
Freight and delivery costs	241,982	271,454	278,856
Total cost of revenues	2,909,783	2,817,803	2,435,591
Gross Profit	908,966	721,767	522,360
Selling, general and administrative expenses	248,005	218,234	169,245
Acquisition-related expenses, net	1,683	8,464	42,891
Other operating (income) and expenses, net	(8,043)	15,653	(4,649)
Earnings from Operations	667,321	479,416	314,873
Interest expense	81,677	76,287	66,057
Other nonoperating income, net	(21,384)	(10,672)	(362)
Earnings from continuing operations before taxes on income	607,028	413,801	249,178
Taxes on income	181,584	124,863	94,847
Earnings from Continuing Operations	425,444	288,938	154,331
Loss on discontinued operations, net of related tax benefit of \$0, \$0 and \$40, respectively	-	-	(37)
Consolidated net earnings	425,444	288,938	154,294
Less: Net earnings (loss) attributable to noncontrolling interests	58	146	(1,307)
Net Earnings Attributable to Martin Marietta	\$ 425,386	\$ 288,792	\$ 155,601
Net Earnings (Loss) Attributable to Martin Marietta			
Earnings from continuing operations	\$ 425,386	\$ 288,792	\$ 155,638
Discontinued operations	-	-	(37)
	\$ 425,386	\$ 288,792	\$ 155,601
Net Earnings Attributable to Martin Marietta Per Common Share (see Note A)			
- Basic from continuing operations attributable to common shareholders	\$ 6.66	\$ 4.31	\$ 2.73
- Discontinued operations attributable to common shareholders	-	-	-
	\$ 6.66	\$ 4.31	\$ 2.73
- Diluted from continuing operations attributable to common shareholders	\$ 6.63	\$ 4.29	\$ 2.71
- Discontinued operations attributable to common shareholders	-	-	-
	\$ 6.63	\$ 4.29	\$ 2.71
Weighted-Average Common Shares Outstanding			
- Basic	63,610	66,770	56,854
- Diluted	63,861	67,020	57,088

The notes on pages 15 through 40 are an integral part of these financial statements.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE EARNINGS for years ended December 31

(add 000)	2016	2015	2014
Consolidated Net Earnings	\$ 425,444	\$ 288,938	\$ 154,294
Other comprehensive (loss) earnings, net of tax:			
Defined benefit pension and postretirement plans:			
Net loss arising during period, net of tax of \$(19,734), \$(4,530) and \$(39,752), respectively	(31,620)	(7,101)	(62,767)
Amortization of prior service credit, net of tax of \$(617), \$(731) and \$(1,108), respectively	(992)	(1,149)	(1,702)
Amortization of actuarial loss, net of tax of \$4,437, \$6,551 and \$1,490, respectively	7,138	10,299	2,289
Amount recognized in net periodic pension cost due to settlement, net of tax of \$44	71	-	-
Amount recognized in net periodic pension cost due to special plan termination benefits, net of tax of \$293 and \$811, respectively	471	1,274	-
	(24,932)	3,323	(62,180)
Foreign currency translation loss	(898)	(3,542)	(624)
Amortization of terminated value of forward starting interest rate swap agreements into interest expense, net of tax of \$541, \$509 and \$470, respectively	826	771	718
	(25,004)	552	(62,086)
Consolidated comprehensive earnings	400,440	289,490	92,208
Less: Comprehensive earnings (loss) attributable to noncontrolling interests	119	161	(1,348)
Comprehensive Earnings Attributable to Martin Marietta	\$ 400,321	\$ 289,329	\$ 93,556

The notes on pages 15 through 40 are an integral part of these financial statements.

Assets (add 000)	2016	2015
Current Assets:		
Cash and cash equivalents	\$ 50,038	\$ 168,409
Accounts receivable, net	457,910	410,921
Inventories, net	521,624	469,141
Other current assets	56,813	33,164
Total Current Assets	1,086,385	1,081,635
Property, plant and equipment, net	3,423,395	3,156,000
Goodwill	2,159,337	2,068,235
Operating permits, net	442,202	444,725
Other intangibles, net	69,110	65,827
Other noncurrent assets	120,476	141,189
Total Assets	\$ 7,300,905	\$ 6,957,611
Liabilities and Equity (add 000, except parenthetical share data)		
Current Liabilities:		
Bank overdraft	\$ -	\$ 10,235
Accounts payable	178,598	164,718
Accrued salaries, benefits and payroll taxes	47,428	30,939
Pension and postretirement benefits	9,293	8,168
Accrued insurance and other taxes	60,093	62,781
Current maturities of long-term debt	180,036	18,713
Other current liabilities	71,140	71,104
Total Current Liabilities	546,588	366,658
Long-term debt	1,506,153	1,550,061
Pension, postretirement and postemployment benefits	248,086	224,538
Deferred income taxes, net	663,019	583,459
Other noncurrent liabilities	194,469	172,718
Total Liabilities	3,158,315	2,897,434
Equity:		
Common stock (\$0.01 par value; 100,000,000 shares authorized; 63,176,000 and 64,479,000 shares outstanding at December 31, 2016 and 2015, respectively)	630	643
Preferred stock (\$0.01 par value; 10,000,000 shares authorized; no shares outstanding)	-	-
Additional paid-in capital	3,334,461	3,287,827
Accumulated other comprehensive loss	(130,687)	(105,622)
Retained earnings	935,574	874,436
Total Shareholders' Equity	4,139,978	4,057,284
Noncontrolling interests	2,612	2,893
Total Equity	4,142,590	4,060,177
Total Liabilities and Equity	\$ 7,300,905	\$ 6,957,611

The notes on pages 15 through 40 are an integral part of these financial statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS for years ended December 31

(add 000)	2016	2015	2014
Cash Flows from Operating Activities:			
Consolidated net earnings	\$ 425,444	\$ 288,938	\$ 154,294
Adjustments to reconcile consolidated net earnings to net cash provided by operating activities:			
Depreciation, depletion and amortization	285,253	263,587	222,746
Stock-based compensation expense	20,481	13,589	8,993
Loss (gains) on divestitures and sales of assets	410	14,093	(52,297)
Deferred income taxes	67,050	85,225	50,292
Excess tax benefits from stock-based compensation transactions	(6,792)	–	(2,508)
Other items, net	(17,730)	(5,972)	4,795
Changes in operating assets and liabilities, net of effects of acquisitions and divestitures:			
Accounts receivable, net	(25,072)	12,309	(16,650)
Inventories, net	(47,381)	(21,525)	(12,020)
Accounts payable	(8,116)	(40,053)	5,303
Other assets and liabilities, net	(14,893)	(37,040)	18,710
Net Cash Provided by Operating Activities	678,654	573,151	381,658
Cash Flows from Investing Activities:			
Additions to property, plant and equipment	(387,267)	(318,232)	(232,183)
Acquisitions, net	(178,768)	(43,215)	(189)
Cash received in acquisition	4,246	63	59,887
Proceeds from divestitures and sales of assets	6,476	448,122	121,985
Payment of railcar construction advances	(82,910)	(25,234)	(14,513)
Reimbursement of railcar construction advances	82,910	25,234	14,513
Repayments from affiliate	–	1,808	1,175
Net Cash (Used for) Provided By Investing Activities	(555,313)	88,546	(49,325)
Cash Flows from Financing Activities:			
Borrowings of long-term debt	560,000	230,000	868,762
Repayments of long-term debt	(449,306)	(244,704)	(1,057,289)
Debt issuance costs	(2,300)	–	(2,782)
Change in bank overdraft	(10,235)	10,052	(2,373)
Payments on capital lease obligations	(3,364)	(6,616)	(3,075)
Dividends paid	(105,036)	(107,462)	(91,304)
Distributions to owners of noncontrolling interests	(400)	(325)	(800)
Contributions by noncontrolling interests to joint venture	44	–	–
Repurchase of common stock	(259,228)	(519,962)	–
Purchase of remaining interest in existing subsidiaries	–	–	(19,480)
Issuances of common stock	21,321	37,078	39,714
Excess tax benefits from stock-based compensation transactions	6,792	–	2,508
Net Cash Used for Financing Activities	(241,712)	(601,939)	(266,119)
Net (Decrease) Increase in Cash and Cash Equivalents	(118,371)	59,758	66,214
Cash and Cash Equivalents, beginning of year	168,409	108,651	42,437
Cash and Cash Equivalents, end of year	\$ 50,038	\$ 168,409	\$ 108,651

The notes on pages 15 through 40 are an integral part of these financial statements.

CONSOLIDATED STATEMENTS OF TOTAL EQUITY

(add 000, except per share data)	Shares of Common Stock	Common Stock	Additional Paid-In Capital	Accumulated Other Comprehensive (Loss) Earnings	Retained Earnings	Total Shareholders' Equity	Non- controlling Interests	Total Equity
Balance at December 31, 2013	46,261	\$ 461	\$ 432,792	\$ (44,114)	\$ 1,148,738	\$ 1,537,877	\$ 37,042	\$ 1,574,919
Consolidated net earnings (loss)	-	-	-	-	155,601	155,601	(1,307)	154,294
Other comprehensive loss	-	-	-	(62,045)	-	(62,045)	(41)	(62,086)
Dividends declared (\$1.60 per common share)	-	-	-	-	(91,304)	(91,304)	-	(91,304)
Issuances of common stock, stock options and stock appreciation rights for TXI acquisition	20,309	203	2,751,670	-	-	2,751,873	-	2,751,873
Issuances of common stock for stock award plans	723	7	41,765	-	-	41,772	-	41,772
Stock-based compensation expense	-	-	8,993	-	-	8,993	-	8,993
Distributions to owners of noncontrolling interests	-	-	-	-	-	-	(800)	(800)
Purchase of subsidiary shares from noncontrolling interest	-	-	8,399	-	-	8,399	(33,312)	(24,913)
Balance at December 31, 2014	67,293	\$ 671	\$ 3,243,619	\$ (106,159)	\$ 1,213,035	\$ 4,351,166	\$ 1,582	\$ 4,352,748
Consolidated net earnings	-	-	-	-	288,792	288,792	146	288,938
Other comprehensive earnings	-	-	-	537	-	537	15	552
Dividends declared (\$1.60 per common share)	-	-	-	-	(107,462)	(107,462)	-	(107,462)
Issuances of common stock for stock award plans	471	5	30,619	-	-	30,624	-	30,624
Repurchases of common stock	(3,285)	(33)	-	-	(519,929)	(519,962)	-	(519,962)
Stock-based compensation expense	-	-	13,589	-	-	13,589	-	13,589
Noncontrolling interest acquired from business combination	-	-	-	-	-	-	1,475	1,475
Distributions to owners of noncontrolling interests	-	-	-	-	-	-	(325)	(325)
Balance at December 31, 2015	64,479	\$ 643	\$ 3,287,827	\$ (105,622)	\$ 874,436	\$ 4,057,284	\$ 2,893	\$ 4,060,177
Consolidated net earnings	-	-	-	-	425,386	425,386	58	425,444
Other comprehensive earnings	-	-	-	(25,065)	-	(25,065)	61	(25,004)
Dividends declared (\$1.64 per common share)	-	-	-	-	(105,036)	(105,036)	-	(105,036)
Issuances of common stock for stock award plans	285	3	26,109	-	-	26,112	-	26,112
Repurchases of common stock	(1,588)	(16)	-	-	(259,212)	(259,228)	-	(259,228)
Stock-based compensation expense	-	-	20,481	-	-	20,481	-	20,481
Distributions to owners of noncontrolling interest	-	-	-	-	-	-	(400)	(400)
Contribution from owners of noncontrolling interest	-	-	44	-	-	44	-	44
Balance at December 31, 2016	63,176	\$ 630	\$ 3,334,461	\$ (130,687)	\$ 935,574	\$ 4,139,978	\$ 2,612	\$ 4,142,590

The notes on pages 15 through 40 are an integral part of these financial statements.

Note A: Accounting Policies

Organization. Martin Marietta Materials, Inc., (the “Corporation” or “Martin Marietta”) is engaged principally in the construction aggregates business. The aggregates product line includes crushed stone, sand and gravel, and is used for the construction of infrastructure, nonresidential and residential projects. Aggregates products are also used for railroad ballast, and in agricultural, utility and environmental applications. These aggregates products, along with the Corporation’s aggregates-related downstream product lines, namely heavy building materials such as asphalt products, ready mixed concrete and road paving construction services, are sold and shipped from a network of more than 400 quarries, distribution facilities and plants to customers in 29 states, Canada, the Bahamas and the Caribbean Islands. The aggregates and aggregates-related downstream product lines are reported collectively as the “Aggregates business.” As of December 31, 2016, the Aggregates business contains the following reportable segments: Mid-America Group, Southeast Group and West Group. The Mid-America Group operates in Indiana, Iowa, northern Kansas, Kentucky, Maryland, Minnesota, Missouri, eastern Nebraska, North Carolina, Ohio, South Carolina, Virginia, Washington and West Virginia. The Southeast Group has operations in Alabama, Florida, Georgia, Tennessee, Nova Scotia and the Bahamas. The West Group operates in Arkansas, Colorado, southern Kansas, Louisiana, western Nebraska, Nevada, Oklahoma, Texas, Utah and Wyoming. The following states accounted for 73% of the Aggregates business’ 2016 net sales: Texas, Colorado, North Carolina, Iowa and Georgia.

The Cement segment produces Portland and specialty cements at two plants in Texas. Similar to the Aggregates business, cement is used in infrastructure projects, nonresidential and residential construction, and the railroad, agricultural, utility and environmental industries.

The Magnesias Specialties segment, with production facilities in Ohio and Michigan, produces magnesia-based chemicals products used in industrial, agricultural and environmental applications, and dolomitic lime sold primarily to customers in the steel industry.

Use of Estimates. The preparation of the Corporation’s consolidated financial statements in conformity with accounting principles generally accepted in the United States requires management to make certain estimates and assumptions about

future events. These estimates and the underlying assumptions affect the amounts of assets and liabilities reported, disclosures about contingent assets and liabilities and reported amounts of revenues and expenses. Such estimates include the valuation of accounts receivable, inventories, goodwill, intangible assets and other long-lived assets and assumptions used in the calculation of taxes on income, retirement and other postemployment benefits, and the allocation of the purchase price to the fair values of assets acquired and liabilities assumed as part of business combinations. These estimates and assumptions are based on management’s judgment. Management evaluates estimates and assumptions on an ongoing basis using historical experience and other factors, including the current economic environment, and adjusts such estimates and assumptions when facts and circumstances dictate. Changes in credit, equity and energy markets and changes in construction activity increase the uncertainty inherent in certain estimates and assumptions. As future events and their effects cannot be determined with precision, actual results could differ significantly from estimates. Changes in estimates, including those resulting from continuing changes in the economic environment, are reflected in the consolidated financial statements for the period in which the change in estimate occurs.

Basis of Consolidation. The consolidated financial statements include the accounts of the Corporation and its wholly-owned and majority-owned subsidiaries. Partially-owned affiliates are either consolidated or accounted for at cost or as equity investments, depending on the level of ownership interest or the Corporation’s ability to exercise control over the affiliates’ operations. Intercompany balances and transactions have been eliminated in consolidation.

Revenue Recognition. Total revenues include sales of materials and services provided to customers, net of discounts or allowances, if any, and include freight and delivery costs billed to customers. Revenues for product sales are recognized when risks associated with ownership have passed to unaffiliated customers. Typically, this occurs when finished products are shipped. Revenues derived from the road paving business are recognized using the percentage-of-completion method under the revenue-cost approach. Under the revenue-cost approach, recognized contract revenue equals the total estimated contract revenue multiplied by the percentage of completion. Recognized costs equal the total estimated contract cost multiplied by the percentage of completion. The percentage of completion is determined by costs incurred to date as a percentage of total costs estimated for the project.

Freight and Delivery Costs. Freight and delivery costs represent pass-through transportation costs incurred and paid by the Corporation to third-party carriers to deliver products to customers. These costs are then billed to the customers.

Cash and Cash Equivalents. Cash equivalents are comprised of highly-liquid instruments with original maturities of three months or less from the date of purchase. The Corporation manages its cash and cash equivalents to ensure short-term operating cash needs are met and excess funds are managed efficiently. The Corporation subsidizes shortages in operating cash through credit facilities. The Corporation utilizes excess cash to either pay down credit facility borrowings or invest in money market funds, money market demand deposit accounts or Eurodollar time deposit accounts. Money market demand deposits and Eurodollar time deposit accounts are exposed to bank solvency risk. Money market demand deposit accounts are FDIC insured up to \$250,000. The Corporation's deposits in bank funds generally exceed the \$250,000 FDIC insurance limit. The Corporation's cash management policy prohibits cash and cash equivalents over \$100,000,000 to be maintained at any one bank.

Customer Receivables. Customer receivables are stated at cost. The Corporation does not typically charge interest on customer accounts receivables. The Corporation records an allowance for doubtful accounts, which includes a provision for probable losses based on historical write offs and a specific reserve for accounts greater than \$50,000 deemed at risk. The Corporation writes off customer receivables as bad debt expense when it becomes apparent based upon customer facts and circumstances that such amounts will not be collected.

Inventories Valuation. Inventories are stated at the lower of cost or net realizable value. Costs for finished products and in process inventories are determined by the first-in, first-out method. The Corporation records an allowance for finished product inventories in excess of sales for a twelve-month period, as measured by historical sales. The Corporation also establishes an allowance for expendable parts over five years old and supplies over one year old.

Post-production stripping costs, which represent costs of removing overburden and waste materials to access mineral deposits, are a component of inventory production costs

and recognized in cost of sales in the same period as the revenue from the sale of the inventory.

Properties and Depreciation. Property, plant and equipment are stated at cost.

The estimated service lives for property, plant and equipment are as follows:

<u>Class of Assets</u>	<u>Range of Service Lives</u>
Buildings	5 to 20 years
Machinery & Equipment	2 to 20 years
Land Improvements	5 to 15 years

The Corporation begins capitalizing quarry development costs at a point when reserves are determined to be proven or probable, economically mineable and when demand supports investment in the market. Capitalization of these costs ceases when production commences. Capitalized quarry development costs are classified as land improvements.

The Corporation reviews relevant facts and circumstances to determine whether to capitalize or expense pre-production stripping costs when additional pits are developed at an existing quarry. If the additional pit operates in a separate and distinct area of the quarry, these costs are capitalized as quarry development costs and depreciated over the life of the uncovered reserves. Additionally, a separate asset retirement obligation is created for additional pits when the liability is incurred. Once a pit enters the production phase, all post-production stripping costs are charged to inventory production costs as incurred.

Mineral reserves and mineral interests acquired in connection with a business combination are valued using an income approach over the life of the reserves.

Depreciation is computed over estimated service lives, principally by the straight-line method. Depletion of mineral reserves is calculated over proven and probable reserves by the units-of-production method on a quarry-by-quarry basis.

Property, plant and equipment are reviewed for impairment whenever facts and circumstances indicate that the carrying amount of an asset may not be recoverable. An impairment loss is recognized if expected future undiscounted cash flows over the estimated remaining service life of the related asset are less than the asset's carrying value.

Repair and Maintenance Costs. Repair and maintenance costs that do not substantially extend the life of the Corporation's plant and equipment are expensed as incurred.

Goodwill and Intangible Assets. Goodwill represents the excess purchase price paid for acquired businesses over the estimated fair value of identifiable assets and liabilities. Other intangibles represent amounts assigned principally to contractual agreements and are amortized ratably over periods based on related contractual terms.

The Corporation's reporting units, which represent the level at which goodwill is tested for impairment, are based on the geographic regions of the Aggregates business. Additionally, the Cement business is a separate reporting unit. Goodwill is allocated to each reporting unit based on the location of acquisitions and divestitures at the time of consummation.

The carrying values of goodwill and other indefinite-lived intangible assets are reviewed annually, as of October 1, for impairment. An interim review is performed between annual tests if facts or circumstances indicate potential impairment. The carrying value of other amortizable intangibles is reviewed if facts and circumstances indicate potential impairment. If a review indicates the carrying value is impaired, a charge is recorded.

Retirement Plans and Postretirement Benefits. The Corporation sponsors defined benefit retirement plans and also provides other postretirement benefits. The Corporation recognizes the funded status, defined as the difference between the fair value of plan assets and the benefit obligation, of its pension plans and other postretirement benefits as an asset or liability on the consolidated balance sheets. Actuarial gains or losses that arise during the year are not recognized as net periodic benefit cost in the same year, but rather are recognized as a component of accumulated other comprehensive earnings or loss. Those amounts are amortized over the participants' average remaining service period and recognized as a component of net periodic benefit cost. The amount amortized is determined using a corridor approach and represents the excess over 10% of the greater of the projected benefit obligation or pension plan assets.

Stock-Based Compensation. The Corporation has stock-based compensation plans for employees and its Board of Directors. The Corporation recognizes all forms of stock-based payments to employees, including stock options, as compensation expense. The compensation expense is the fair value of the awards at the measurement date and is recognized over the requisite service period.

The fair value of restricted stock awards, incentive compensation awards and Board of Directors' fees paid in the form of common stock are based on the closing price of the Corporation's common stock on the awards' respective grant dates. The fair value of performance stock awards based on total shareholder return is determined by a Monte Carlo simulation methodology.

In 2016, the Corporation did not issue any stock options. For stock options issued prior to 2016, the Corporation uses the accelerated expense recognition method. The accelerated recognition method requires stock options that vest ratably to be divided into tranches. The expense for each tranche is allocated to its particular vesting period.

The Corporation uses the lattice valuation model to determine the fair value of stock option awards. The lattice valuation model takes into account employees' exercise patterns based on changes in the Corporation's stock price and other variables. The period of time for which options are expected to be outstanding, or expected term of the option, is a derived output of the lattice valuation model. The Corporation considers the following factors when estimating the expected term of options: vesting period of the award, expected volatility of the underlying stock, employees' ages and external data.

Key assumptions used in determining the fair value of the stock options awarded in 2015 and 2014 were:

	2015	2014
Risk-free interest rate	2.20%	2.50%
Dividend yield	1.20%	1.50%
Volatility factor	36.10%	35.30%
Expected term	8.5 years	8.5 years

Based on these assumptions, the weighted-average fair value of each stock option granted was \$57.71 and \$43.42 for 2015 and 2014, respectively.

The risk-free interest rate reflects the interest rate on zero-coupon U.S. government bonds, available at the time each option was granted, having a remaining life approximately equal to the option's expected life. The dividend yield represents the dividend rate expected to be paid over the option's expected life. The Corporation's volatility factor measures the amount by which its stock price is expected to fluctuate during the expected life of the option and is based on historical stock price changes. Forfeitures are required to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. The Corporation estimates forfeitures and will ultimately recognize compensation cost only for those stock-based awards that vest.

For restricted stock awards and incentive stock awards granted prior to 2016, the Corporation recognizes income tax benefits resulting from the payment of dividend equivalents on unvested stock-based payments as an increase to additional paid-in capital and includes them in the pool of excess tax benefits. For awards granted in 2016, dividend equivalents are not paid unless the award vests.

Environmental Matters. The Corporation records a liability for an asset retirement obligation at fair value in the period in which it is incurred. The asset retirement obligation is recorded at the acquisition date of a long-lived tangible asset if the fair value can be reasonably estimated. A corresponding amount is capitalized as part of the asset's carrying amount. The fair value is affected by management's assumptions regarding the scope of the work required, inflation rates and quarry closure dates.

Further, the Corporation records an accrual for other environmental remediation liabilities in the period in which it is probable that a liability has been incurred and the appropriate amounts can be estimated reasonably. Such accruals are adjusted as further information develops or circumstances change. These costs are not discounted to their present value or offset for potential insurance or other claims or potential gains from future alternative uses for a site.

Income Taxes. Deferred income taxes, net, on the consolidated balance sheets reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes, net of valuation allowances.

Uncertain Tax Positions. The Corporation recognizes a tax benefit when it is more-likely-than-not, based on the technical merits, that a tax position would be sustained upon examination by a taxing authority. The amount to be recognized is measured as the largest amount of tax benefit that is greater than 50% likely of being realized upon ultimate settlement with a taxing authority that has full knowledge of all relevant information. The Corporation's unrecognized tax benefits are recorded in other liabilities on the consolidated balance sheets or as an offset to the deferred tax asset for tax carryforwards where available.

The Corporation records interest accrued in relation to unrecognized tax benefits as income tax expense. Penalties, if incurred, are recorded as operating expenses in the consolidated statements of earnings.

Sales Taxes. Sales taxes collected from customers are recorded as liabilities until remitted to taxing authorities and therefore are not reflected in the consolidated statements of earnings.

Research and Development Costs. Research and development costs are charged to operations as incurred.

Start-Up Costs. Noncapital start-up costs for new facilities and products are charged to operations as incurred.

Warranties. The Corporation's construction contracts contain warranty provisions covering defects in equipment, materials, design or workmanship that generally run from nine months to one year after project completion. Due to the nature of its projects, including contract owner inspections of the work both during construction and prior to acceptance, the Corporation has not experienced material warranty costs for these short-term warranties and therefore does not believe an accrual for these costs is necessary. Certain product lines carry longer warranty periods, for which the Corporation has accrued an estimate of warranty cost based on experience with the type of work and any known risks relative to the project. These costs were not material to the Corporation's consolidated results of operations for the years ended December 31, 2016, 2015 and 2014.

Consolidated Comprehensive Earnings and Accumulated Other Comprehensive Loss. Consolidated comprehensive earnings for the Corporation consist of consolidated net earnings, adjustments for the funded status of pension and postretirement benefit plans, foreign currency translation adjustments and the amortization of the value of terminated forward starting interest rate swap agreements into interest expense, and are presented in the Corporation's consolidated statements of comprehensive earnings.

Accumulated other comprehensive loss consists of unrealized gains and losses related to the funded status of the pension and postretirement benefit plans, foreign currency translation and the unamortized value of terminated forward starting interest rate swap agreements, and is presented on the Corporation's consolidated balance sheets.

The components of the changes in accumulated other comprehensive loss and related cumulative noncurrent deferred tax assets are as follows:

	Pension and Postretirement Benefit Plans	Foreign Currency	Unamortized Value of Terminated Forward Starting Interest Rate Swap	Total
2016				
<i>years ended December 31</i> (add 000)				
Accumulated other comprehensive loss at beginning of period	\$ (103,380)	\$ (264)	\$ (1,978)	\$ (105,622)
Other comprehensive loss before reclassifications, net of tax	(31,678)	(898)	–	(32,576)
Amounts reclassified from accumulated other comprehensive loss, net of tax	6,685	–	826	7,511
Other comprehensive (loss) earnings, net of tax	(24,993)	(898)	826	(25,065)
Accumulated other comprehensive loss at end of period	\$ (128,373)	\$ (1,162)	\$ (1,152)	\$ (130,687)
Cumulative noncurrent deferred tax assets at end of period	\$ 82,044	\$ –	\$ 749	\$ 82,793
2015				
Accumulated other comprehensive (loss) earnings at beginning of period	\$ (106,688)	\$ 3,278	\$ (2,749)	\$ (106,159)
Other comprehensive loss before reclassifications, net of tax	(7,116)	(3,542)	–	(10,658)
Amounts reclassified from accumulated other comprehensive loss, net of tax	10,424	–	771	11,195
Other comprehensive earnings (loss), net of tax	3,308	(3,542)	771	537
Accumulated other comprehensive loss at end of period	\$ (103,380)	\$ (264)	\$ (1,978)	\$ (105,622)
Cumulative noncurrent deferred tax assets at end of period	\$ 66,467	\$ –	\$ 1,290	\$ 67,757
2014				
Accumulated other comprehensive (loss) earnings at beginning of period	\$ (44,549)	\$ 3,902	\$ (3,467)	\$ (44,114)
Other comprehensive loss before reclassifications, net of tax	(62,726)	(624)	–	(63,350)
Amounts reclassified from accumulated other comprehensive loss, net of tax	587	–	718	1,305
Other comprehensive (loss) earnings, net of tax	(62,139)	(624)	718	(62,045)
Accumulated other comprehensive (loss) earnings at end of period	\$ (106,688)	\$ 3,278	\$ (2,749)	\$ (106,159)
Cumulative noncurrent deferred tax assets at end of period	\$ 68,568	\$ –	\$ 1,799	\$ 70,367

Reclassifications out of accumulated other comprehensive loss are as follows:

years ended December 31 (add 000)	2016	2015	2014	Affected line items in the consolidated statements of earnings
Pension and postretirement benefit plans				
Special plan termination benefit	\$ 764	\$ 2,085	\$ -	
Settlement charge	115	-	-	
Amortization of:				
Prior service credit	(1,609)	(1,880)	(2,810)	
Actuarial loss	11,575	16,850	3,779	
	10,845	17,055	969	Cost of sales; Selling, general & administrative expenses
Tax effect	(4,160)	(6,631)	(382)	Taxes on income
Total	\$ 6,685	\$ 10,424	\$ 587	

Unamortized value of terminated forward starting interest rate swap

Additional interest expense	\$ 1,367	\$ 1,280	\$ 1,188	Interest expense
Tax effect	(541)	(509)	(470)	Taxes on income
Total	\$ 826	\$ 771	\$ 718	

Earnings Per Common Share. The Corporation computes earnings per share ("EPS") pursuant to the two-class method. The two-class method determines EPS for each class of common stock and participating securities according to dividends or dividend equivalents and their respective participation rights in undistributed earnings. The Corporation pays nonforfeitable dividend equivalents during the vesting period on its restricted stock awards and incentive stock awards made prior to 2016, which results in these being considered participating securities.

The numerator for basic and diluted earnings per common share is net earnings attributable to Martin Marietta, reduced by dividends and undistributed earnings attributable to the Corporation's unvested restricted stock awards and incentive stock awards issued prior to 2016. The denominator for basic earnings per common share is the weighted-average number of common shares outstanding during the period. Diluted earnings per common share are computed assuming that the weighted-average number of common shares is increased by the conversion, using the treasury stock method, of awards issued to employees and nonemployee members of the Corporation's Board of Directors under certain stock-based compensation arrangements if the conversion is dilutive.

The following table reconciles the numerator and denominator for basic and diluted earnings per common share:

years ended December 31 (add 000)	2016	2015	2014
Net earnings from continuing operations attributable to Martin Marietta	\$ 425,386	\$ 288,792	\$ 155,638
Less: Distributed and undistributed earnings attributable to unvested awards	1,775	1,252	647
Basic and diluted net earnings attributable to common shareholders from continuing operations attributable to Martin Marietta	423,611	287,540	154,991
Basic and diluted net loss attributable to common shareholders from discontinued operations	-	-	(37)
Basic and diluted net earnings attributable to common shareholders attributable to Martin Marietta	\$ 423,611	\$ 287,540	\$ 154,954
Basic weighted-average common shares outstanding	63,610	66,770	56,854
Effect of dilutive employee and director awards	251	250	234
Diluted weighted-average common shares outstanding	63,861	67,020	57,088

New Accounting Pronouncements. The Financial Accounting Standards Board ("FASB") issued an accounting standard update on accounting for stock compensation. The new standard is effective January 1, 2017 and requires all excess tax benefits and tax deficiencies to be recorded as income tax benefit or expense in the income statement in the period the awards vest or are settled as a discrete item. Additionally, any excess tax benefits will be reflected as an operating activity in the statement of cash flows. Further, any shares withheld for personal income taxes will be classified as a financing activity in the statement of cash flows. Although the adoption of the new standard does not have a cumulative effect, it will create volatility in the Corporation's income tax rate in periods when share-based compensation awards either vest or are exercised.

The FASB issued an accounting standard update that amends the accounting guidance on revenue recognition. The new standard intends to provide a more robust framework for addressing revenue issues, improve comparability of revenue recognition practices and improve disclosure requirements. The new standard is effective January 1, 2018 and can be applied on a full retrospective or modified retrospective approach. The Corporation has completed its initial assessment of the provisions of the new standard and, at this time, does not expect the impact to be material to its results of operations.

The FASB issued an accounting standard update on accounting for leases. The new standard requires lease rights and obligations arising from lease contracts, including existing and new arrangements, to be recognized as assets and liabilities on the balance sheet. The standard also requires additional disclosures by lessees and contains targeted changes to accounting by lessors. The new standard is effective January 1, 2019, with early adoption permitted. The guidance is required to be adopted at the earliest period presented using a modified retrospective approach. The Corporation is currently assessing the impact of the updated standard on the Corporation's financial statements. The Corporation believes the updated standard will have a material effect on its balance sheet but has not quantified the impact at this time.

The FASB issued an accounting standard update on the classification of certain cash receipts and payments in the statement of cash flows intended to reduce diversity in practice. The guidance is effective January 1, 2018, with early adoption permitted. The guidance is to be applied retrospectively to all periods

presented, but may be applied prospectively if retrospective application would be impracticable. The Corporation is currently evaluating the effect of the standard on its consolidated statements of cash flows.

Note B: Goodwill and Other Intangible Assets

The following table shows the changes in goodwill by reportable segment and in total:

	Mid-America Group	Southeast Group	West Group	Cement	Total
2016					
December 31 (add 000)					
Balance at beginning of period	\$281,403	\$50,346	\$871,220	\$865,266	\$2,068,235
Acquisitions	-	-	91,174	-	91,174
Divestitures	-	-	(72)	-	(72)
Balance at end of period	\$281,403	\$50,346	\$962,322	\$865,266	\$2,159,337
2015					
Balance at beginning of period	\$282,117	\$50,346	\$852,436	\$883,900	\$2,068,799
Acquisitions	-	-	8,464	-	8,464
Adjustments to purchase price allocations	-	-	15,538	(18,634)	(3,096)
Divestitures	(714)	-	(5,218)	-	(5,932)
Balance at end of period	\$281,403	\$50,346	\$871,220	\$865,266	\$2,068,235

Intangible assets subject to amortization consist of the following:

	Gross Amount	Accumulated Amortization	Net Balance
2016			
December 31 (add 000)			
Noncompetition agreements	\$ 6,274	\$ (6,106)	\$ 168
Customer relationships	45,755	(13,636)	32,119
Operating permits	455,095	(19,493)	435,602
Use rights and other	16,946	(9,239)	7,707
Trade names	12,800	(5,681)	7,119
Total	\$ 536,870	\$ (54,155)	\$ 482,715
2015			
Noncompetition agreements	\$ 6,274	\$ (6,069)	\$ 205
Customer relationships	35,805	(10,448)	25,357
Operating permits	450,419	(12,294)	438,125
Use rights and other	16,746	(8,030)	8,716
Trade names	12,800	(3,408)	9,392
Total	\$ 522,044	\$ (40,249)	\$ 481,795

Intangible assets deemed to have an indefinite life and not being amortized consist of the following:

	Aggregates Business	Cement	Magnesia Specialties	Total
<i>December 31</i> (add 000)				
				2016
Operating permits	\$ 6,600	\$ -	\$ -	\$ 6,600
Use rights	10,015	9,137	-	19,152
Trade names	280	-	2,565	2,845
Total	\$ 16,895	\$ 9,137	\$ 2,565	\$ 28,597
				2015
Operating permits	\$ 6,600	\$ -	\$ -	\$ 6,600
Use rights	10,175	9,137	-	19,312
Trade names	280	-	2,565	2,845
Total	\$ 17,055	\$ 9,137	\$ 2,565	\$ 28,757

During 2016, the Corporation acquired \$15,134,000 of intangibles, consisting of the following:

(add 000, except year data)	Amount	Weighted-average amortization period
Subject to amortization:		
Customer relationships	\$ 9,950	10.3 years
Operating permits	4,984	40.6 years
Other	200	1.5 years
Total	\$ 15,134	20.2 years

Total amortization expense for intangible assets for the years ended December 31, 2016, 2015 and 2014 was \$13,922,000, \$13,962,000 and \$9,311,000, respectively.

The estimated amortization expense for intangible assets for each of the next five years and thereafter is as follows:

(add 000)	
2017	\$ 14,375
2018	13,417
2019	12,107
2020	11,727
2021	11,021
Thereafter	420,068
Total	\$ 482,715

Note C: Business Combinations

In the first quarter 2016, the Corporation acquired the outstanding stock of Rocky Mountain Materials and Asphalt, Inc. and Rocky Mountain Premix, Inc. The acquisition provides more than 500 million tons of mineral reserves and expands the Corporation's presence along the Front Range of the Rocky Mountains, home to 80% of Colorado's population. The acquired operations are reported through the West Group. The Corporation has recorded preliminary fair values of the assets acquired and liabilities assumed; however, the transaction purchase consideration is subject to a normal post-closing working capital adjustment. Therefore, the measurement period for accounts receivable and goodwill remains open as of December 31, 2016.

During the third quarter 2016, the Corporation acquired the remaining interest in Ratliff Ready-Mix, L.P. ("Ratliff"), which operates ready mixed concrete plants in central Texas. These operations are reported in the West Group. Prior to the acquisition, the Corporation owned a 40% interest in Ratliff which was accounted for under the equity method. The Corporation was required to remeasure the existing 40% interest in Ratliff at fair value upon closing of the transaction, resulting in a gain of \$5,863,000, which is recorded in other nonoperating income, net. The Corporation recorded preliminary fair values of the assets acquired and liabilities assumed; however, certain amounts are subject to change upon review of the seller's final tax return. Therefore, the measurement period for deferred income tax accounts and goodwill remains open as of December 31, 2016.

The impact of these acquisitions on the operating results was not considered material; therefore, pro forma financial information is not included.

Note D: Accounts Receivable, Net

<i>December 31</i> (add 000)	2016	2015
Customer receivables	\$ 456,508	\$ 408,551
Other current receivables	7,668	9,310
	464,176	417,861
Less allowances	(6,266)	(6,940)
Total	\$ 457,910	\$ 410,921

Of the total accounts receivable, net, balances, \$2,578,000 and \$3,794,000 at December 31, 2016 and 2015, respectively, were due from unconsolidated affiliates.

Note E: Inventories, Net

December 31 (add 000)	2016	2015
Finished products	\$ 479,291	\$ 433,649
Products in process and raw materials	61,171	55,194
Supplies and expendable parts	116,024	110,882
	656,486	599,725
Less allowances	(134,862)	(130,584)
Total	\$ 521,624	\$ 469,141

Note F: Property, Plant and Equipment, Net

December 31 (add 000)	2016	2015
Land and land improvements	\$ 915,158	\$ 865,700
Mineral reserves and interests	1,114,560	1,001,295
Buildings	151,115	144,076
Machinery and equipment	3,766,975	3,473,826
Construction in progress	167,722	128,301
	6,115,530	5,613,198
Less accumulated depreciation, depletion and amortization	(2,692,135)	(2,457,198)
Total	\$ 3,423,395	\$ 3,156,000

The gross asset value and accumulated amortization for machinery and equipment recorded under capital leases at December 31 were as follows:

(add 000)	2016	2015
Machinery and equipment under capital leases	\$ 23,117	\$ 19,379
Less accumulated amortization	(8,077)	(5,102)
Total	\$ 15,040	\$ 14,277

Depreciation, depletion and amortization expense related to property, plant and equipment was \$268,935,000, \$246,874,000 and \$211,242,000 for the years ended December 31, 2016, 2015 and 2014, respectively. Depreciation, depletion and amortization expense includes amortization of machinery and equipment under capital leases.

Interest cost of \$3,543,000, \$5,832,000 and \$8,033,000 was capitalized during 2016, 2015 and 2014, respectively.

At December 31, 2016 and 2015, \$58,332,000 and \$58,937,000, respectively, of the Aggregates business' net property, plant and equipment were located in foreign countries, namely the Bahamas and Canada.

Note G: Long-Term Debt

December 31 (add 000)	2016	2015
6.6% Senior Notes, due 2018	\$ 299,483	\$ 299,113
7% Debentures, due 2025	124,090	124,002
6.25% Senior Notes, due 2037	227,975	227,917
4.25% Senior Notes, due 2024	395,252	394,690
Floating Rate Notes, due 2017, interest rate of 2.10% and 1.71% at December 31, 2016 and 2015, respectively	299,033	298,868
Term Loan Facility, interest rate of 1.86% at December 31, 2015	-	222,521
Revolving Facility, due 2021, interest rate of 1.86% at December 31, 2016	160,000	-
Trade Receivable Facility, interest rate of 1.34% at December 31, 2016	180,000	-
Other notes	356	1,663
Total	1,686,189	1,568,774
Less current maturities	(180,036)	(18,713)
Long-term debt	\$ 1,506,153	\$ 1,550,061

The Corporation's 6.6% Senior Notes due 2018, 7% Debentures due 2025, 6.25% Senior Notes due 2037, 4.25% Senior Notes due 2024 and Floating Rate Notes due 2017 (collectively, the "Senior Notes") are senior unsecured obligations of the Corporation, ranking equal in right of payment with the Corporation's existing and future unsubordinated indebtedness. Upon a change-of-control repurchase event and a resulting below-investment-grade credit rating, the Corporation would be required to make an offer to repurchase all outstanding Senior Notes, with the exception of the 7% Debentures due 2025, at a price in cash equal to 101% of the principal amount of the Senior Notes, plus any accrued and unpaid interest to, but not including, the purchase date.

The Senior Notes are carried net of original issue discount, which is being amortized by the effective interest method over the life of the issue. The Senior Notes are redeemable prior to their respective maturity dates at a make-whole redemption price. The principal amount, effective interest rate and maturity date for the Corporation's Senior Notes are as follows:

	Principal Amount (add 000)	Effective Interest Rate	Maturity Date
6.6% Senior Notes	\$300,000	6.81%	April 15, 2018
7% Debentures	\$125,000	7.12%	December 1, 2025
6.25% Senior Notes	\$230,000	6.45%	May 1, 2037
4.25% Senior Notes	\$400,000	4.25%	July 2, 2024
Floating Rate Notes	\$300,000	Three-month LIBOR+1.10%	June 30, 2017

In connection with the issuance of its \$300,000,000 Floating Rate Senior Notes due 2017 (the "Floating Rate Notes") and its \$400,000,000 4.25% Senior Notes due 2024 (the "4.25% Senior Notes"), the Corporation entered into an indenture, between the Corporation and Regions Bank, as trustee, and a Registration Rights Agreement, among the Corporation, Deutsche Bank Securities, Inc. and J.P. Morgan Securities, LLC, as representatives of the several initial purchasers named in Schedule I to the purchase agreement. The Floating Rate Notes bear interest at a rate equal to the three-month London Interbank Offered Rate ("LIBOR") plus 1.10% and may not be redeemed prior to maturity. The 4.25% Senior Notes may be redeemed in whole or in part prior to their maturity at a make-whole redemption price. During the last 3 months prior to maturity, the 4.25% Senior Notes can be redeemed at par plus accrued and unpaid interest.

On December 5, 2016, the Corporation entered into a new credit agreement with JPMorgan Chase Bank, N.A., as Administrative Agent, Branch Banking and Trust Company ("BB&T"), Deutsche Bank Securities, Inc., SunTrust Bank, and Wells Fargo Bank, N.A., as Co-Syndication Agents, and the lenders party thereto (the "Credit Agreement"), which provides for a \$700,000,000 five-year senior unsecured revolving facility (the "Revolving Facility"). Borrowings under the Revolving Facility bear interest, at the Corporation's option, at rates based upon LIBOR or a base rate, plus, for each rate, a margin determined in accordance with a ratings-based pricing grid. The Revolving Facility replaced the Corporation's credit agreement dated as of November 9, 2013 with JPMorgan Chase Bank, N.A., as Administrative Agent, BB&T, Deutsche Bank Securities, Inc., SunTrust Bank, and Wells Fargo Bank, N.A., as Co-Syndication Agents, and the lenders party thereto (the "Former Credit Agreement"). The Former Credit Agreement had provided for a term loan and a revolving facility under which \$210,937,500 and \$0, respectively, were outstanding prior to entering into the Revolving Facility. The Revolving Facility is syndicated with the following banks:

Lender (add 000)	Revolving Facility Commitment
JPMorgan Chase Bank, N.A.	\$ 92,800
BB&T	92,800
Deutsche Bank AG New York Branch	92,800
SunTrust Bank	92,800
Wells Fargo Bank, N.A.	92,800
PNC Bank, National Association	62,000
Regions Bank	62,000
The Northern Trust Company	62,000
The Bank of Tokyo-Mitsubishi UFJ, Ltd.	30,000
Comerica Bank	20,000
Total	\$ 700,000

The Corporation's Credit Agreement requires the Corporation's ratio of consolidated net debt-to-consolidated earnings before interest, taxes, depreciation, depletion and amortization ("EBITDA"), as defined, for the trailing-twelve months (the "Ratio") to not exceed 3.50x as of the end of any fiscal quarter, provided that the Corporation may exclude from the Ratio debt incurred in connection with certain acquisitions during the quarter or the three preceding quarters so long as the Ratio calculated without such exclusion does not exceed 3.75x. Additionally, if no amounts are outstanding under both the Revolving Facility and the trade receivable securitization facility (discussed later), consolidated debt, including debt for which the Corporation is a co-borrower (see Note N), may be reduced by the Corporation's unrestricted cash and cash equivalents in excess of \$50,000,000, such reduction not to exceed \$200,000,000, for purposes of the covenant calculation. The Corporation was in compliance with this Ratio at December 31, 2016.

The Revolving Facility expires on December 5, 2021, with any outstanding principal amounts, together with interest accrued thereon, due in full on that date. Available borrowings under the Revolving Facility are reduced by any outstanding letters of credit issued by the Corporation under the Revolving Facility. At December 31, 2016 and 2015, the Corporation had \$2,507,000 of outstanding letters of credit issued under the Revolving Facility. The Corporation paid the bank group an upfront loan commitment fee that is being amortized over the life of the Revolving Facility. The Revolving Facility includes an annual facility fee.

The Corporation, through a wholly-owned special-purpose subsidiary, has a trade receivable securitization facility (the "Trade Receivable Facility"). On September 28, 2016, the Corporation amended the Trade Receivable Facility to increase the borrowing capacity from \$250,000,000 to \$300,000,000 and extend the maturity to September 27, 2017. The Trade Receivable Facility, with SunTrust Bank, Regions Bank, PNC Bank, N.A., The Bank of Tokyo-Mitsubishi UFJ, Ltd., New York Branch, and certain other lenders that may become a party to the facility from time to time, is backed by eligible trade receivables, as defined. Borrowings are limited to the lesser of the facility limit or the borrowing base, as defined, of \$333,302,000 and \$282,258,000 at December 31, 2016 and 2015, respectively. These receivables are originated by the Corporation and then sold or contributed to the wholly-owned special-purpose subsidiary. The Corporation continues to be responsible for the servicing and administration of the receivables purchased by the wholly-owned special-purpose subsidiary. Borrowings under the Trade Receivable Facility bear interest at a rate equal to one-month LIBOR plus 0.725%, subject to change in the event that this rate no longer reflects the lender's cost of lending. The Trade Receivable Facility contains a cross-default provision to the Corporation's other debt agreements.

The Corporation's long-term debt maturities for the five years following December 31, 2016, and thereafter are:

(add 000)	
2017	\$ 180,035
2018	299,534
2019	55
2020	60
2021	459,098
Thereafter	747,407
Total	\$ 1,686,189

The Corporation's \$300,000,000 Floating Rate Notes mature June 30, 2017. The Corporation has classified these obligations as noncurrent long-term debt on the consolidated balance sheets as it has the intent to refinance the notes on a long-term basis. For the debt maturity schedule, the notes are included in 2021.

The Corporation has a \$5,000,000 short-term line of credit. No amounts were outstanding under this line of credit at December 31, 2016 or 2015.

Accumulated other comprehensive loss includes the unamortized value of terminated forward starting interest rate swap agreements. For the years ended December 31, 2016, 2015 and 2014, the Corporation recognized \$1,367,000, \$1,280,000 and \$1,188,000, respectively, as additional interest expense. The ongoing amortization of the terminated value of the forward starting interest rate swap agreements will increase annual interest expense by approximately \$1,400,000 until the maturity of the 6.6% Senior Notes in 2018.

Note H: Financial Instruments

The Corporation's financial instruments include temporary cash investments, accounts receivable, notes receivable, bank overdraft, accounts payable, publicly-registered long-term notes, debentures and other long-term debt.

Temporary cash investments are placed primarily in money market funds and money market demand deposit accounts with the following financial institutions: BB&T, Comerica Bank and Regions Bank. The Corporation's cash equivalents have maturities of less than three months. Due to the short maturity of these investments, they are carried on the consolidated balance sheets at cost, which approximates fair value.

Accounts receivable are due from a large number of customers, primarily in the construction industry, and are dispersed across wide geographic and economic regions. However, accounts receivable are more heavily concentrated in certain states, namely Texas, Colorado, North Carolina, Iowa and Georgia. The estimated fair values of accounts receivable approximate their carrying amounts.

Notes receivable are primarily promissory notes with customers and are not publicly traded. Management estimates that the fair value of notes receivable approximates its carrying amount.

The bank overdraft represents amounts to be funded to financial institutions for checks that have cleared the bank. The estimated fair value of the bank overdraft approximates its carrying value.

Accounts payable represent amounts owed to suppliers and vendors. The estimated fair value of accounts payable approximates its carrying amount due to the short-term nature of the payables.

The carrying values and fair values of the Corporation's long-term debt were \$1,686,189,000 and \$1,752,338,000, respectively, at December 31, 2016 and \$1,568,774,000 and \$1,625,193,000, respectively, at December 31, 2015. The estimated fair value of the Corporation's publicly-registered long-term debt was estimated based on Level 2 of the fair value hierarchy using quoted market prices. The estimated fair values of other borrowings, which primarily represent variable-rate debt, approximate their carrying amounts as the interest rates reset periodically.

Note I: Income Taxes

The components of the Corporation's tax expense (benefit) on income from continuing operations are as follows:

years ended December 31 (add 000)	2016	2015	2014
Federal income taxes:			
Current	\$ 97,975	\$ 20,627	\$ 35,313
Deferred	68,899	85,295	46,616
Total federal income taxes	166,874	105,922	81,929
State income taxes:			
Current	15,189	18,153	10,307
Deferred	(1,149)	930	3,376
Total state income taxes	14,040	19,083	13,683
Foreign income taxes:			
Current	1,064	99	1,262
Deferred	(394)	(241)	(2,027)
Total foreign income taxes	670	(142)	(765)
Total taxes on income	\$181,584	\$124,863	\$ 94,847

The increase in 2016 federal current tax expense is primarily attributable to an increase in earnings; while, in comparison to 2015, the benefit from the utilization of net operating loss ("NOL") carryforwards acquired in the 2014 purchase of TXI lowered current tax expense. The utilization of NOL carryforwards primarily attributed to the increase in federal deferred tax expense in 2015, although some benefits were also recognized in 2016 and 2014. For the years ended December 31, 2016, 2015 and 2014, the benefit related to the utilization of federal NOL carryforwards, reflected in current tax expense, was \$11,852,000, \$156,554,000 and \$16,940,000, respectively.

For the years ended December 31, 2016 and 2014, excess tax benefits attributable to stock-based compensation transactions that were recorded to shareholders' equity amounted to \$6,792,000 and \$2,508,000, respectively. For the year ended December 31, 2015, the realized tax benefit for stock-based compensation transactions was \$871,000 less than the amounts estimated during the vesting periods, resulting in a decrease in the pool of excess tax credits.

For the year ended December 31, 2016, foreign pretax earnings were \$3,865,000. For the years ended December 31, 2015 and 2014, foreign pretax loss was \$1,175,000 and \$10,557,000, respectively.

The Corporation's effective income tax rate on continuing operations varied from the statutory United States income tax rate because of the following permanent tax differences:

years ended December 31	2016	2015	2014
Statutory tax rate	35.0%	35.0%	35.0%
(Reduction) increase resulting from:			
Effect of statutory depletion	(5.4)	(7.8)	(9.6)
State income taxes, net of federal tax benefit	1.5	3.0	3.6
Domestic production deduction	(2.0)	(0.1)	(0.9)
Transfer pricing	-	-	(0.2)
Goodwill write off	-	0.4	3.9
Foreign tax rate differential	(0.1)	-	1.3
Disallowed compensation	0.2	0.2	3.7
Transaction costs	0.1	-	2.4
Other items	0.6	(0.5)	(1.1)
Effective income tax rate	29.9%	30.2%	38.1%

For income tax purposes, the statutory depletion deduction is calculated as a percentage of sales, subject to certain limitations. Due to these limitations, the impact of changes in the sales volumes and earnings may not proportionately affect the Corporation's statutory depletion deduction and the corresponding impact on the effective income tax rate on continuing operations. The growth in non-depletable income has resulted in a reduced impact on the effective income tax rate related to the statutory depletion deduction.

The state tax impact on the effective income tax rate has decreased due to changes in apportionment of taxable income to states with lower tax rates and the reduction in certain states' statutory tax rates.

The Corporation is entitled to receive a 9% tax deduction related to income from domestic (i.e., United States) production activities. The deduction reduced income tax expense and increased consolidated net earnings by \$13,583,000, or \$0.21 per diluted share, in 2016; \$222,000, or less than \$0.01 per diluted share, in 2015; and \$3,239,000, or \$0.05 per diluted share, in 2014. The impact on the 2015 and 2014 effective income tax rate was limited by the significant utilization of NOL carryforwards.

In 2015 and 2014, the Corporation wrote off goodwill not deductible for income tax purposes as part of the sale of certain operations. In addition, the Corporation incurred certain compensation and transaction expenses, primarily in 2014 in connection with the TXI acquisition, that are not deductible for income tax purposes and therefore increased the effective income tax rate.

The principal components of the Corporation's deferred tax assets and liabilities are as follows:

December 31 (add 000)	Deferred Assets (Liabilities)	
	2016	2015
Deferred tax assets related to:		
Employee benefits	\$ 61,462	\$ 56,302
Inventories	71,490	75,907
Valuation and other reserves	38,206	42,857
Net operating loss carryforwards	10,507	11,448
Accumulated other comprehensive loss	82,793	67,757
AMT credit carryforward	2,771	48,197
Gross deferred tax assets	267,229	302,468
Valuation allowance on deferred tax assets	(8,521)	(8,967)
Total net deferred tax assets	258,708	293,501
Deferred tax liabilities related to:		
Property, plant and equipment	(635,576)	(593,767)
Goodwill and other intangibles	(268,999)	(266,436)
Other items, net	(17,152)	(16,757)
Total deferred tax liabilities	(921,727)	(876,960)
Net deferred tax liability	\$ (663,019)	\$ (583,459)

The increase in the net deferred tax liability is primarily a result of deferred taxes recorded in conjunction with stock acquisitions and the utilization of Alternative Minimum Tax ("AMT") credit carryforwards.

Deferred tax assets for employee benefits result from the temporary differences between the deductions for pension and postretirement obligations, incentive compensation and stock-based compensation transactions. For financial reporting purposes, such amounts are expensed based on authoritative accounting guidance. For income tax purposes, amounts related to pension and postretirement obligations and incentive compensation are deductible as funded. Amounts related to stock-based compensation transactions are deductible for income tax purposes upon vesting or exercise of the underlying award.

The Corporation had domestic federal and state NOL carryforwards of \$220,532,000 (federal \$0; state \$220,532,000) and \$273,251,000 (federal \$33,863,000; state \$239,388,000) at December 31, 2016 and 2015, respectively. These carryforwards have various expiration dates through 2036. At December 31, 2016 and 2015, deferred tax assets associated with these carryforwards were \$10,507,000 and \$11,448,000, respectively, net of unrecognized tax benefits, for which valuation allowances of \$8,303,000 and \$8,690,000, respectively, were recorded. The Corporation recorded a \$3,714,000 valuation reserve in 2015 for certain domestic NOL carryforwards, which was driven by the sale of the California cement operations. The Corporation also had domestic tax credit carryforwards of \$1,441,000 and \$3,179,000 at December 31, 2016 and 2015, respectively, which expire in 2018. At December 31, 2016 and 2015, deferred tax assets associated with these carryforwards were \$937,000 and \$2,509,000, respectively, net of unrecognized tax benefits, for which valuation allowances of \$218,000 and \$277,000, respectively, were recorded. At December 31, 2016, the Corporation also had an AMT credit carryforward of \$17,192,000, which does not expire. The deferred tax asset associated with this carryforward, net of unrecognized tax benefits, was \$2,771,000.

Deferred tax liabilities for property, plant and equipment result from accelerated depreciation methods being used for income tax purposes as compared with the straight-line method for financial reporting purposes.

Deferred tax liabilities related to goodwill and other intangibles reflect the cessation of goodwill amortization for financial reporting purposes, while amortization continues for income tax purposes.

The Corporation provides deferred taxes, as required, on the undistributed net earnings of all non-U.S. subsidiaries for which the indefinite reversal criterion has not been met. The Corporation expects to reinvest permanently the earnings from its wholly-owned Canadian subsidiary and accordingly, has not provided deferred taxes on the subsidiary's undistributed net earnings. The wholly-owned Canadian subsidiary's undistributed net earnings are estimated to be \$35,392,000 at December 31, 2016. The unrecognized deferred tax liability for temporary differences related to the investment in the wholly-owned Canadian subsidiary is estimated to be \$1,872,000 for the year ended December 31, 2016.

The following table summarizes the Corporation's unrecognized tax benefits, excluding interest and correlative effects:

years ended December 31 (add 000)	2016	2015	2014
Unrecognized tax benefits at beginning of year	\$ 18,727	\$ 21,107	\$ 11,826
Gross increases – tax positions in prior years	2,401	3,079	2,075
Gross decreases – tax positions in prior years	(1,924)	(3,512)	(203)
Gross increases – tax positions in current year	4,650	4,978	3,369
Gross decreases – tax positions in current year	(2,047)	(594)	(51)
Lapse of statute of limitations	–	(6,331)	(1,872)
Unrecognized tax benefits assumed with acquisition	–	–	5,963
Unrecognized tax benefits at end of year	\$ 21,807	\$ 18,727	\$ 21,107

For the year ended December 31, 2014, the unrecognized tax benefits assumed with acquisition represented positions acquired with TXI.

At December 31, 2016, 2015 and 2014, unrecognized tax benefits of \$11,603,000, \$7,975,000 and \$9,362,000, respectively, related to interest accruals and permanent income tax differences, net of federal tax benefits, would have favorably affected the Corporation's effective income tax rate if recognized.

Unrecognized tax benefits are reversed as a discrete event if an examination of applicable tax returns is not initiated by a federal or state tax authority within the statute of limitations or upon effective settlement with federal or state tax authorities. Management believes its accrual for unrecognized tax benefits is sufficient to cover uncertain tax positions reviewed during audits by taxing authorities. The Corporation anticipates that it is reasonably possible that its unrecognized tax benefits may decrease up to \$3,935,000, excluding indirect benefits, during the twelve months ending December 31, 2017 due to the expiration of the statute of limitations for the 2012 and 2013 tax years.

For the years ended December 31, 2015 and 2014, \$2,364,000 or \$0.04 per diluted share, and \$687,000 or \$0.01 per diluted share, respectively, were reversed into income upon the statute of limitations expiration for the 2010 and 2011 tax years.

The Corporation's open tax years subject to federal, state or foreign examinations are 2010 through 2016.

Note J: Retirement Plans, Postretirement and Postemployment Benefits

The Corporation sponsors defined benefit retirement plans that cover substantially all employees. Additionally, the Corporation provides other postretirement benefits for certain employees, including medical benefits for retirees and their spouses and retiree life insurance. The Corporation also provides certain benefits, such as disability benefits, to former or inactive employees after employment but before retirement.

The measurement date for the Corporation's defined benefit plans, postretirement benefit plans and postemployment benefit plans is December 31.

Defined Benefit Retirement Plans. Retirement plan assets are invested in listed stocks, bonds, hedge funds, real estate and cash equivalents. Defined retirement benefits for salaried employees are based on each employee's years of service and average compensation for a specified period of time before retirement. Defined retirement benefits for hourly employees are generally stated amounts for specified periods of service.

The Corporation sponsors a Supplemental Excess Retirement Plan ("SERP") that generally provides for the payment of retirement benefits in excess of allowable Internal Revenue Code limits. The SERP generally provides for a lump-sum payment of vested benefits. When these benefit payments exceed the sum of the service and interest costs for the SERP during a year, the Corporation recognizes a pro-rata portion of the SERP's unrecognized actuarial loss as settlement expense.

The net periodic retirement benefit cost of defined benefit plans includes the following components:

years ended December 31 (add 000)	2016	2015	2014
Components of net periodic benefit cost:			
Service cost	\$ 22,167	\$ 23,001	\$ 17,125
Interest cost	35,879	33,151	28,935
Expected return on assets	(37,699)	(36,385)	(32,661)
Amortization of:			
Prior service cost	350	422	445
Actuarial loss	12,074	17,159	4,045
Transition asset	(1)	(1)	(1)
Settlement charge	124	–	–
Termination benefit charge	764	2,085	13,652
Net periodic benefit cost	\$ 33,658	\$ 39,432	\$ 31,540

The expected return on assets is based on the fair value of the plan assets. The termination benefit charge represents the increased benefits payable to former TXI executives as part of their change-in-control agreements.

The Corporation recognized the following amounts in consolidated comprehensive earnings:

years ended December 31 (add 000)	2016		2015	2014
	Actuarial loss	\$ 52,028	\$ 9,916	\$ 105,546
Amortization of:				
Prior service cost	(350)	(422)	(445)	
Actuarial loss	(12,074)	(17,159)	(4,045)	
Transition asset	1	1	1	
Special plan termination benefits	(764)	(2,085)	—	
Settlement charge	(124)	—	—	
Net prior service cost	—	2,338	—	
Total	\$ 38,717	\$(7,411)	\$ 101,057	

Accumulated other comprehensive loss includes the following amounts that have not yet been recognized in net periodic benefit cost:

December 31 (add 000)	2016		2015	
	Gross	Net of tax	Gross	Net of tax
Prior service cost	\$ 425	\$ 261	\$ 1,028	\$ 628
Actuarial loss	218,056	133,083	178,770	108,874
Transition asset	(7)	(4)	(8)	(5)
Total	\$ 218,474	\$ 133,340	\$ 179,790	\$ 109,497

The prior service cost, actuarial loss and transition asset expected to be recognized in net periodic benefit cost during 2017 are \$311,000 (net of deferred taxes of \$120,000), \$14,098,000 (net of deferred taxes of \$5,438,000) and \$1,000, respectively. These amounts are included in accumulated other comprehensive loss at December 31, 2016.

The defined benefit plans' change in projected benefit obligation is as follows:

years ended December 31 (add 000)	2016		2015
	Change in projected benefit obligation:		
Net projected benefit obligation at beginning of year	\$ 754,543	\$ 753,975	
Service cost	22,167	23,001	
Interest cost	35,879	33,151	
Actuarial loss (gain)	49,760	(27,119)	
Gross benefits paid	(30,500)	(30,803)	
Nonrecurring termination benefit	—	2,338	
Net projected benefit obligation at end of year	\$ 831,849	\$ 754,543	

The Corporation's change in plan assets, funded status and amounts recognized on the Corporation's consolidated balance sheets are as follows:

years ended December 31 (add 000)	2016	2015
Change in plan assets:		
Fair value of plan assets at beginning of year	\$ 546,512	\$ 524,042
Actual return on plan assets, net	35,432	(651)
Employer contributions	44,763	53,924
Gross benefits paid	(30,500)	(30,803)
Fair value of plan assets at end of year	\$ 596,207	\$ 546,512

December 31 (add 000)	2016	2015
Funded status of the plan at end of year	\$ (235,642)	\$ (208,031)
Accrued benefit cost	\$ (235,642)	\$ (208,031)

December 31 (add 000)	2016	2015
Amounts recognized on consolidated balance sheets consist of:		
Current liability	\$ (6,223)	\$ (6,048)
Noncurrent liability	(229,419)	(201,983)
Net amount recognized at end of year	\$ (235,642)	\$ (208,031)

The accumulated benefit obligation for all defined benefit pension plans was \$752,659,000 and \$688,017,000 at December 31, 2016 and 2015, respectively.

Benefit obligations and fair value of plan assets for pension plans with accumulated benefit obligations in excess of plan assets are as follows:

December 31 (add 000)	2016	2015
Projected benefit obligation	\$ 831,849	\$ 754,543
Accumulated benefit obligation	\$ 752,659	\$ 688,017
Fair value of plan assets	\$ 596,207	\$ 546,512

Weighted-average assumptions used to determine benefit obligations as of December 31 are:

	2016	2015
Discount rate	4.29%	4.67%
Rate of increase in future compensation levels	4.50%	4.50%

Weighted-average assumptions used to determine net periodic benefit cost for years ended December 31 are:

	2016	2015	2014
Discount rate	4.67%	4.25%	5.17%
Rate of increase in future compensation levels	4.50%	4.50%	5.00%
Expected long-term rate of return on assets	7.00%	7.00%	7.00%

The expected long-term rate of return on assets is based on a building-block approach, whereby the components are weighted based on the allocation of pension plan assets.

For 2016 and 2015, the Corporation estimated the remaining lives of participants in the pension plans using the RP-2014 Base Table. The Corporation used mortality improvement scale MP-2016 and BB-2D for the years 2016 and 2015, respectively. The change in mortality improvement scale in 2016 did not have a material impact on the projected benefit obligation. The white-collar table was used for salaried participants and the blue-collar table, reflecting the experience of the Corporation's participants, was used for hourly participants.

The target allocation for 2016 and the actual pension plan asset allocation by asset class are as follows:

Asset Class	Percentage of Plan Assets		
	2016 Target Allocation	December 31	
		2016	2015
Equity securities	54%	57%	55%
Debt securities	30%	28%	31%
Hedge funds	8%	7%	7%
Real estate	8%	8%	7%
Total	100%	100%	100%

The Corporation's investment strategy is for approximately 50% of equity securities to be invested in mid-sized to large capitalization U.S. funds with the remaining to be invested in small capitalization, emerging markets and international funds. Debt securities, or fixed income investments, are invested in funds benchmarked to the Barclays U.S. Aggregate Bond Index.

The fair values of pension plan assets by asset class and fair value hierarchy level are as follows:

December 31 (add 000)	Quoted Prices in Active Markets for Identical Assets (Level 1)				Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total Fair Value
	2016						
2016							
Equity securities:							
Mid-sized to large cap	\$	–	\$ 169,176	\$	–	\$ 169,176	
Small cap, international and emerging growth funds	–	–	169,678	–	–	169,678	
Debt securities:							
Core fixed income	–	–	168,282	–	–	168,282	
Real estate	–	–	–	–	44,890	44,890	
Hedge funds	–	–	–	–	44,036	44,036	
Cash	–	–	–	–	–	145	
Total	\$	145	\$ 507,136	\$	88,926	\$ 596,207	
2015							
Equity securities:							
Mid-sized to large cap	\$	–	\$ 156,008	\$	–	\$ 156,008	
Small cap, international and emerging growth funds	–	–	144,405	–	–	144,405	
Debt securities:							
Core fixed income	–	–	167,545	–	–	167,545	
Real estate	15,479	–	–	–	23,242	38,721	
Hedge funds	–	–	–	–	39,219	39,219	
Cash	–	–	–	–	–	614	
Total	\$	16,093	\$ 467,958	\$	62,461	\$ 546,512	

Level 3 real estate investments are stated at estimated fair value, which is 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. The fair values of real estate investments generally do not reflect transaction costs which may be incurred upon disposition of the real estate investments and do not necessarily represent the prices at which the real estate investments would be sold or repaid, since market prices of real estate investments can only be determined by negotiation between a willing buyer and seller. An independent valuation consultant is employed to determine the fair value of the real estate investments. The value of hedge funds is based on the values of the sub-fund investments. In determining the fair value of each sub-fund's investment, the hedge funds' Board of Trustees uses the values provided by the sub-funds and any other considerations that may, in its judgment, increase or decrease such estimated value.

NOTES TO FINANCIAL STATEMENTS (continued)

The change in the fair value of pension plan assets valued using significant unobservable inputs (Level 3) is as follows:

years ended December 31 (add 000)	Real Estate	Hedge Funds
	2016	
Balance at beginning of year	\$ 23,242	\$ 39,219
Purchases, sales, settlements, net	18,579	3,100
Actual return on plan assets held at period end	3,069	1,717
Balance at end of year	\$ 44,890	\$ 44,036
	2015	
Balance at beginning of year	\$ 20,363	\$ 38,264
Actual return on plan assets held at period end	2,879	955
Balance at end of year	\$ 23,242	\$ 39,219

In 2016 and 2015, the Corporation made combined pension and SERP contributions of \$44,763,000 and \$53,924,000, respectively. The Corporation currently estimates that it will contribute \$32,537,000 to its pension and SERP plans in 2017.

The expected benefit payments to be paid from plan assets for each of the next five years and the five-year period thereafter are as follows:

(add 000)	
2017	\$ 36,563
2018	\$ 38,452
2019	\$ 40,792
2020	\$ 42,981
2021	\$ 44,403
Years 2022 - 2026	\$ 250,080

Postretirement Benefits. The net periodic postretirement benefit credit for postretirement plans includes the following components:

years ended December 31 (add 000)	2016	2015	2014
Components of net periodic benefit credit:			
Service cost	\$ 85	\$ 137	\$ 206
Interest cost	863	928	1,164
Amortization of:			
Prior service credit	(1,959)	(2,302)	(3,255)
Actuarial gain	(499)	(309)	(266)
Settlement credit	(9)	—	—
Total net periodic benefit credit	\$ (1,519)	\$ (1,546)	\$ (2,151)

The Corporation recognized the following amounts in consolidated comprehensive earnings:

years ended December 31 (add 000)	2016	2015	2014
Actuarial loss (gain)	\$ 686	\$ (626)	\$ (3,026)
Net prior service credit	(1,326)	—	—
Settlement credit	9	—	—
Amortization of:			
Prior service credit	1,959	2,302	3,255
Actuarial gain	499	309	266
Total	\$ 1,827	\$ 1,985	\$ 495

Accumulated other comprehensive loss includes the following amounts that have not yet been recognized in net periodic benefit credit or cost:

December 31 (add 000)	2016		2015	
	Gross	Net of tax	Gross	Net of tax
Prior service credit	\$ (4,153)	\$ (2,551)	\$ (4,786)	\$ (2,924)
Actuarial gain	(3,857)	(2,369)	(5,050)	(3,086)
Total	\$ (8,010)	\$ (4,920)	\$ (9,836)	\$ (6,010)

The prior service credit and actuarial gain expected to be recognized in net periodic benefit cost during 2017 is \$1,741,000 (net of a deferred tax liability of \$672,000) and \$284,000 (net of a deferred tax liability of \$110,000), respectively, and are included in accumulated other comprehensive loss at December 31, 2016.

The postretirement health care plans' change in benefit obligation is as follows:

years ended December 31 (add 000)	2016	2015
Change in benefit obligation:		
Net benefit obligation at beginning of year	\$ 23,408	\$ 25,086
Service cost	85	137
Interest cost	863	928
Participants' contributions	2,616	1,777
Actuarial loss (gain)	688	(627)
Gross benefits paid	(5,743)	(3,893)
Plan amendments	(1,326)	—
Net benefit obligation at end of year	\$ 20,591	\$ 23,408

The Corporation's change in plan assets, funded status and amounts recognized on the Corporation's consolidated balance sheets are as follows:

years ended December 31 (add 000)	2016	2015
Change in plan assets:		
Fair value of plan assets at beginning of year	\$ -	\$ -
Employer contributions	3,127	2,116
Participants' contributions	2,616	1,777
Gross benefits paid	(5,743)	(3,893)
Fair value of plan assets at end of year	\$ -	\$ -

December 31 (add 000)	2016	2015
Funded status of the plan at end of year	\$ (20,591)	\$ (23,408)
Accrued benefit cost	\$ (20,591)	\$ (23,408)

December 31 (add 000)	2016	2015
Amounts recognized on consolidated balance sheets consist of:		
Current liability	\$ (3,070)	\$ (2,120)
Noncurrent liability	(17,521)	(21,288)
Net amount recognized at end of year	\$ (20,591)	\$ (23,408)

Weighted-average assumptions used to determine the post-retirement benefit obligations as of December 31 are:

	2016	2015
Discount rate	3.78%	4.25%

Weighted-average assumptions used to determine the post-retirement benefit cost for the years ended December 31 are:

	2016	2015	2014
Discount rate	4.25%	3.83%	4.42%

For 2016 and 2015, the Corporation estimated the remaining lives of participants in the postretirement plan using the RP-2014 Base Table. The Corporation used mortality improvement scale MP-2016 and BB-2D for the years 2016 and 2015, respectively.

Assumed health care cost trend rates at December 31 are:

	2016	2015
Health care cost trend rate assumed for next year	7.0%	7.0%
Rate to which the cost trend rate gradually declines	5.0%	5.0%
Year the rate reaches the ultimate rate	2021	2020

Assumed health care cost trend rates have a significant effect on the amounts reported for the health care plans. A one percentage-point change in assumed health care cost trend rates would have the following effects:

(add 000)	One Percentage Point	
	Increase	(Decrease)
Total service and interest cost components	\$ 49	\$ (42)
Postretirement benefit obligation	\$1,051	\$ (911)

The Corporation estimates that it will contribute \$3,070,000 to its postretirement health care plans in 2017.

The total expected benefit payments to be paid by the Corporation, net of participant contributions, for each of the next five years and the five-year period thereafter are as follows:

(add 000)	
2017	\$ 3,070
2018	\$ 2,120
2019	\$ 2,000
2020	\$ 1,873
2021	\$ 1,781
Years 2022 - 2026	\$ 6,434

Defined Contribution Plans. The Corporation maintains defined contribution plans that cover substantially all employees. These plans, qualified under Section 401(a) of the Internal Revenue Code, are retirement savings and investment plans for the Corporation's salaried and hourly employees. Under certain provisions of these plans, the Corporation, at established rates, matches employees' eligible contributions. The Corporation's matching obligations were \$13,235,000 in 2016, \$12,444,000 in 2015 and \$8,602,000 in 2014.

Postemployment Benefits. The Corporation had accrued postemployment benefits of \$1,146,000 and \$1,267,000 at December 31, 2016 and 2015, respectively.

Note K: Stock-Based Compensation

The shareholders approved, on May 19, 2016, the Martin Marietta Amended and Restated Stock-Based Award Plan. The Martin Marietta Materials, Inc. Stock-Based Award Plan, as amended from time to time (along with the Amended Omnibus Securities Award Plan, originally approved in 1994, the "Plans") is still effective for awards made prior to 2017. The Corporation has been authorized by the Board of Directors to repurchase shares of the Corporation's common stock for issuance under the stock-based award plans (see Note M).

The Corporation grants restricted stock awards under the Plans to a group of executive officers, key personnel and non-employee Board of Directors. The vesting of certain restricted stock awards is based on certain performance criteria over a specified period of time. In addition, certain awards are granted to individuals to encourage retention and motivate key employees. These awards generally vest if the employee is continuously employed over a specified period of time and require no payment from the employee. Awards granted to nonemployee Board of Directors vest immediately.

Additionally, an incentive stock plan has been adopted under the Plans whereby certain participants may elect to use up to 50% of their annual incentive compensation

to acquire units representing shares of the Corporation's common stock at a 20% discount to the market value on the date of the incentive compensation award. Certain executive officers are required to participate in the incentive stock plan at certain minimum levels. Participants earn the right to receive unrestricted shares of common stock in an amount equal to their respective units generally at the end of a 34-month period of additional employment from the date of award or at retirement beginning at age 62. All rights of ownership of the common stock convey to the participants upon the issuance of their respective shares at the end of the ownership-vesting period, with the exception of dividend equivalents that are paid on the units during the vesting period.

The following table summarizes information for restricted stock awards and incentive compensation awards as of December 31, 2016:

	Restrictive Stock - Service Based		Restrictive Stock - Performance Based		Incentive Compensation	
	Number of Awards	Weighted- Average Grant-Date Fair Value	Number of Awards	Weighted- Average Grant-Date Fair Value	Number of Awards	Weighted- Average Grant-Date Fair Value
January 1, 2016	288,563	\$ 120.92	36,607	\$ 117.76	37,340	\$ 106.45
Awarded	73,550	\$ 128.48	75,421	\$ 124.41	18,570	\$ 124.41
Distributed	(51,849)	\$ 104.82	—	\$ —	(14,665)	\$ 107.01
Forfeited	(2,947)	\$ 129.59	(711)	\$ 124.41	(696)	\$ 108.28
December 31, 2016	307,317	\$ 125.36	111,317	\$ 122.22	40,549	\$ 114.44

The weighted-average grant-date fair value of service-based restricted stock awards granted during 2016, 2015 and 2014 was \$128.48, \$154.26 and \$126.88, respectively. The weighted average grant-date fair value of performance-based restricted stock awards granted during 2016, 2015 and 2014 was \$124.41, \$108.53 and \$129.14, respectively. The weighted-average grant-date fair value of incentive compensation awards granted during 2016, 2015 and 2014 was \$124.41, \$108.53 and \$109.17, respectively.

The aggregate intrinsic values for restricted stock awards and incentive compensation awards at December 31, 2016 were \$92,740,000 and \$5,270,000, respectively, and were based on the closing price of the Corporation's common stock at December 31, 2016, which was \$221.53. The aggregate intrinsic values of restricted stock awards distributed during the years ended December 31, 2016, 2015 and 2014 were

\$9,738,000, \$11,387,000 and \$3,555,000, respectively. The aggregate intrinsic values of incentive compensation awards distributed during the years ended December 31, 2016, 2015 and 2014 were \$1,941,000, \$983,000 and \$584,000, respectively. The aggregate intrinsic values for distributed awards were based on the closing prices of the Corporation's common stock on the dates of distribution.

Under the Plans, prior to 2016, the Corporation granted options to employees to purchase its common stock at a price equal to the closing market value at the date of grant. Options become exercisable in four annual installments beginning one year after date of grant. Options granted starting 2013 expire ten years after the grant date while outstanding options granted prior to 2013 expire eight years after the grant date.

In connection with the TXI acquisition, the Corporation issued 821,282 Martin Marietta stock options ("Replacement Options") to holders of outstanding TXI stock options at the acquisition date. The Corporation issued 0.7 Replacement Options for each outstanding TXI stock option, and the Replacement Option prices reflected the exchange ratio. The Replacement Options will expire on the original contractual dates when the TXI stock options were initially issued. Consistent with the terms of the Corporation's other outstanding stock options, Replacement Options expire 90 days after employment is terminated.

Prior to 2009, each nonemployee Board of Director member received 3,000 non-qualified stock options annually. These options have an exercise price equal to the market value at the date of grant, vested immediately and expire ten years from the grant date.

The following table includes summary information for stock options as of December 31, 2016:

	Number of Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Life (years)
Outstanding at January 1, 2016	686,012	\$ 95.43	
Exercised	(276,240)	\$ 98.67	
Terminated	(2,881)	\$ 89.06	
Outstanding at December 31, 2016	406,891	\$ 93.27	3.9
Exercisable at December 31, 2016	324,979	\$ 82.63	3.0

The weighted-average grant-date exercise price of options granted during 2015 and 2014 was \$154.58 and \$121.00, respectively. The aggregate intrinsic values of options exercised during the years ended December 31, 2016, 2015 and 2014 were \$22,571,000, \$7,318,000 and \$9,709,000, respectively, and were based on the closing prices of the Corporation's common stock on the dates of exercise. The aggregate intrinsic values for options outstanding and exercisable at December 31, 2016 were \$52,189,000 and \$45,138,000, respectively, and were based on the closing price of the Corporation's common stock at December 31, 2016, which was \$221.53.

At December 31, 2016, there are approximately 941,000 awards available for grant under the Plans. In 2016, the Corporation's shareholders approved the registration of an additional 800,000 shares of common stock under the Plans. As part of approving

the registered shares, the Corporation agreed to not issue any additional awards under the legacy TXI plan. The awards available for grant under the Plans at December 31, 2016 reflect no awards available under the legacy TXI plan.

In 1996, the Corporation adopted the Shareholder Value Achievement Plan to award shares of the Corporation's common stock to key senior employees based on certain common stock performance criteria over a long-term period. Under the terms of this plan, 250,000 shares of common stock were reserved for issuance. Through December 31, 2016, 42,025 shares have been issued under this plan. No awards have been granted under this plan after 2000.

The Corporation adopted and the shareholders approved the Common Stock Purchase Plan for Directors in 1996, which provides nonemployee Board of Directors the election to receive all or a portion of their total fees in the form of the Corporation's common stock. In 2016, members of the Board of Directors were not required to defer any of their fees in the form of the Corporation's common stock. Under the terms of this plan, 300,000 shares of common stock were reserved for issuance. Nonemployee Board of Directors elected to defer portions of their fees representing 3,699, 4,035 and 3,804 shares of the Corporation's common stock under this plan during 2016, 2015 and 2014, respectively.

The following table summarizes stock-based compensation expense for the years ended December 31, 2016, 2015 and 2014, unrecognized compensation cost for nonvested awards at December 31, 2016 and the weighted-average period over which unrecognized compensation cost will be recognized:

(add 000, except year data)	Stock Options	Restricted Stock	Incentive Compensation	Directors' Awards	Total
Stock-based compensation expense recognized for years ended December 31:					
2016	\$ 1,646	\$ 17,747	\$ 442	\$ 646	\$ 20,481
2015	\$ 2,679	\$ 9,809	\$ 376	\$ 725	\$ 13,589
2014	\$ 2,020	\$ 6,189	\$ 257	\$ 527	\$ 8,993
Unrecognized compensation cost at December 31, 2016:	\$ 1,045	\$ 19,533	\$ 340	\$ -	\$ 20,918
Weighted-average period over which unrecognized compensation cost will be recognized:	1.6 years	2.1 years	1.5 years	-	

For the years ended December 31, 2016, 2015 and 2014, the Corporation recognized a deferred tax asset related to stock-based compensation expense of \$7,901,000, \$5,286,000 and \$3,542,000, respectively.

The following presents expected stock-based compensation expense in future periods for outstanding awards as of December 31, 2016:

(add 000)	
2017	\$11,492
2018	7,547
2019	1,879
Total	\$20,918

Stock-based compensation expense is included in selling, general and administrative expenses in the Corporation's consolidated statements of earnings.

Note L: Leases

Total lease expense for operating leases was \$85,945,000, \$80,417,000 and \$59,590,000 for the years ended December 31, 2016, 2015 and 2014, respectively. The Corporation's operating leases generally contain renewal and/or purchase options with varying terms. The Corporation has royalty agreements that generally require royalty payments based on tons produced or total sales dollars and also contain minimum payments. Total royalties, principally for leased properties, were \$55,257,000, \$53,658,000 and \$50,535,000 for the years ended December 31, 2016, 2015 and 2014, respectively. The Corporation also has capital lease obligations for machinery and equipment.

Future minimum lease and royalty commitments for all non-cancelable agreements and capital lease obligations as of December 31, 2016 are as follows:

(add 000)	Capital Leases	Operating Leases and Royalty Commitments
2017	\$ 3,416	\$ 125,316
2018	3,561	68,488
2019	3,241	59,727
2020	2,558	55,080
2021	1,768	51,376
Thereafter	5,216	355,918
Total	19,760	\$ 715,905
Less: imputed interest	(4,155)	
Present value of minimum lease payments	15,605	
Less: current capital lease obligations	(2,683)	
Long-term capital lease obligations	\$ 12,922	

Of the total future minimum commitments, \$225,900,000 relates to the Corporation's contracts of affreightment.

Note M: Shareholders' Equity

The authorized capital structure of the Corporation includes 100,000,000 shares of common stock, with a par value of \$0.01 a share. At December 31, 2016, approximately 2,164,000 common shares were reserved for issuance under stock-based plans.

Pursuant to authority granted by its Board of Directors, the Corporation can repurchase up to 20,000,000 shares of common stock through open-market purchases. The Corporation repurchased 1,587,987 and 3,285,380 shares of common stock during 2016 and 2015, respectively, and did not repurchase any shares of common stock during 2014. At December 31, 2016, 15,126,633 shares of common stock were remaining under the Corporation's repurchase authorization.

In addition to common stock, the Corporation's capital structure includes 10,000,000 shares of preferred stock with a par value of \$0.01 a share. On October 21, 2006, the Board of Directors adopted a Rights Agreement (the "Rights Agreement") and reserved 200,000 shares of Junior Participating Class B Preferred Stock for issuance. In accordance with the Rights Agreement, the Corporation issued a dividend of one right for each share of the Corporation's common stock outstanding as of October 21, 2006, and one right continues to attach to each share of common stock issued thereafter. The rights will become exercisable if any person or group acquires beneficial ownership of 15% or more of the Corporation's common stock. Once exercisable and upon a person or group acquiring 15% or more of the Corporation's common stock, each right (other than rights owned by such person or group) entitles its holder to purchase, for an exercise price of \$315 per share, a number of shares of the Corporation's common stock (or in certain circumstances, cash, property or other securities of the Corporation) having a market value of twice the exercise price, and under certain conditions, common stock of an acquiring company having a market value of twice the exercise price. If any person or group acquires beneficial ownership of 15% or more of the Corporation's common stock, the Corporation may, at its option, exchange the outstanding rights (other than rights owned by such acquiring person or group) for shares of the Corporation's common stock or Corporation equity securities deemed to have the same value as one share of common stock or a combination thereof, at an exchange ratio of one share of common stock per right. The Corporation's Rights Agreement expired on October 21, 2016.

Note N: Commitments and Contingencies

Legal and Administrative Proceedings. The Corporation is engaged in certain legal and administrative proceedings incidental to its normal business activities. In the opinion of management and counsel, based upon currently-available facts, it is remote that the ultimate outcome of any litigation and other proceedings, including those pertaining to environmental matters (see Note A), relating to the Corporation and its subsidiaries, will have a material adverse effect on the overall results of the Corporation's operations, its cash flows or its financial position.

Asset Retirement Obligations. The Corporation incurs reclamation and teardown costs as part of its mining and production processes. Estimated future obligations are discounted to their present value and accreted to their projected future obligations via charges to operating expenses. Additionally, the fixed assets recorded concurrently with the liabilities are depreciated over the period until retirement activities are expected to occur. Total accretion and depreciation expenses for 2016, 2015 and 2014 were \$8,823,000, \$6,767,000 and \$4,584,000, respectively, and are included in other operating income and expenses, net, in the consolidated statements of earnings.

The following shows the changes in the asset retirement obligations:

years ended December 31 (add 000)	2016	2015
Balance at beginning of year	\$ 89,604	\$ 70,422
Accretion expense	4,288	3,336
Liabilities incurred and assumed in business combinations	6,700	14,735
Liabilities settled	166	(4,490)
Revisions in estimated cash flows	348	5,601
Balance at end of year	\$ 101,106	\$ 89,604

Other Environmental Matters. The Corporation's operations are subject to and affected by federal, state and local laws and regulations relating to the environment, health and safety and other regulatory matters. Certain of the Corporation's operations may, from time to time, involve the use of substances that are classified as toxic or hazardous within the meaning of these laws and regulations. Environmental operating permits are, or may be, required for certain of the Corporation's operations, and such permits are subject to modification, renewal and revocation. The Corporation regularly monitors and reviews its operations, procedures and policies for compliance with these laws and regulations. Despite these compliance efforts, risk of environmental remediation liability is inherent in the operation

of the Corporation's businesses, as it is with other companies engaged in similar businesses. The Corporation has no material provisions for environmental remediation liabilities and does not believe such liabilities will have a material adverse effect on the Corporation in the future.

The United States Environmental Protection Agency ("EPA") includes the lime industry as a national enforcement priority under the federal Clean Air Act ("CAA"). As part of the industry-wide effort, the EPA issued Notices of Violation/ Findings of Violation ("NOVs") to the Corporation in 2010 and 2011 regarding its compliance with the CAA New Source Review ("NSR") program at its Magnesia Specialties dolomitic lime manufacturing plant in Woodville, Ohio. The Corporation has been providing information to the EPA in response to these NOVs and has had several meetings with the EPA. The Corporation believes it is in substantial compliance with the NSR program. At this time, the Corporation cannot reasonably estimate what likely penalties or upgrades to equipment might ultimately be required. The Corporation believes any costs related to any required upgrades to capital equipment will be spread over time and will not have a material adverse effect on the Corporation's results of operations or its financial condition.

Insurance Reserves. The Corporation has insurance coverage with large deductibles for workers' compensation, automobile liability, marine liability and general liability claims. The Corporation is also self-insured for health claims. At December 31, 2016 and 2015, reserves of \$42,184,000 and \$45,911,000, respectively, were recorded for all such insurance claims. The Corporation carries various risk deductible workers' compensation policies related to its workers' compensation liabilities. The Corporation records the workers' compensation reserves based on an actuarial-determined analysis. This analysis calculates development factors, which are applied to total reserves within the workers' compensation program. While the Corporation believes the assumptions used to calculate these liabilities are appropriate, significant differences in actual experience and/or significant changes in these assumptions may materially affect workers' compensation costs.

Letters of Credit. In the normal course of business, the Corporation provides certain third parties with standby letter of credit agreements guaranteeing its payment for certain insurance claims, utilities and property improvements. At December 31, 2016, the Corporation was contingently liable for \$45,428,000 in letters of credit, of which \$2,507,000 were issued under the Corporation's Revolving Facility.

Certain of these underlying obligations are accrued on the Corporation's consolidated balance sheets.

Surety Bonds. In the normal course of business, at December 31, 2016, the Corporation was contingently liable for \$381,456,000 in surety bonds required by certain states and municipalities and their related agencies. The bonds are principally for certain insurance claims, construction contracts, reclamation obligations and mining permits guaranteeing the Corporation's own performance. Certain of these underlying obligations, including those for asset retirement requirements and insurance claims, are accrued on the Corporation's consolidated balance sheets. Five of these bonds total \$85,111,000, or 22%, of all outstanding surety bonds. The Corporation has indemnified the underwriting insurance companies, Liberty Mutual and W.R. Berkley, against any exposure under the surety bonds. In the Corporation's past experience, no material claims have been made against these financial instruments.

Borrowing Arrangements with Affiliate. The Corporation is a co-borrower with an unconsolidated affiliate for a \$25,000,000 revolving line of credit agreement with BB&T, of which \$22,600,000 was outstanding as of December 31, 2016. The line of credit expires in February 2018. The affiliate has agreed to reimburse and indemnify the Corporation for any payments and expenses the Corporation may incur from this agreement. The Corporation holds a lien on the affiliate's membership interest in a joint venture as collateral for payment under the revolving line of credit.

In 2014, the Corporation loaned the unconsolidated affiliate a total of \$6,000,000 as an interest-only note due December 31, 2019.

Purchase Commitments. The Corporation had purchase commitments for property, plant and equipment of \$94,074,000 as of December 31, 2016. The Corporation also had other purchase obligations related to energy and service contracts of \$106,307,000 as of December 31, 2016. The Corporation's contractual purchase commitments as of December 31, 2016 are as follows:

(add 000)	
2017	\$ 154,804
2018	24,555
2019	16,453
2020	2,979
2021	454
Thereafter	1,136
Total	\$ 200,381

Capital expenditures in 2016, 2015 and 2014 that were purchase commitments as of the prior year end were \$62,927,000, \$116,681,000 and \$34,135,000, respectively.

Employees. Approximately 11% of the Corporation's employees are represented by a labor union. All such employees are hourly employees. The Corporation maintains collective bargaining agreements relating to the union employees within the Aggregates business and Magnesia Specialties segment. Of the Magnesia Specialties segment, located in Manistee, Michigan and Woodville, Ohio, 100% of its hourly employees are represented by labor unions. The Manistee collective bargaining agreement expires in August 2019. The Woodville collective bargaining agreement expires in May 2018.

Note O: Business Segments

The Aggregates business is comprised of divisions which represent operating segments. Disclosures for certain divisions are consolidated as reportable segments for financial reporting purposes as they meet the aggregation criteria. The Aggregates business contains three reportable segments: Mid-America Group, Southeast Group and West Group. The Cement and Magnesia Specialties businesses also represent individual operating and reportable segments. The accounting policies used for segment reporting are the same as those described in Note A.

The Corporation's evaluation of performance and allocation of resources are based primarily on earnings from operations. Consolidated earnings from operations include net sales less cost of sales, selling, general and administrative expenses, acquisition-related expenses, net, and other operating income and expenses, net, and exclude interest expense, other nonoperating income and expenses, net, and taxes on income. Corporate consolidated earnings from operations primarily include depreciation on capitalized interest, expenses for corporate administrative functions, acquisition-related expenses, net, and other nonrecurring and/or non-operational income and expenses excluded from the Corporation's evaluation of business segment performance and resource allocation. All debt and related interest expense is held at Corporate.

Assets employed by segment include assets directly identified with those operations. Corporate assets consist primarily of cash and cash equivalents; property, plant and equipment for corporate operations; investments and other assets not directly identifiable with a reportable business segment.

For the year ended December 31, 2016, the Corporation changed the presentation of the elimination of the intersegment and interproduct revenues and sales. Information for the years ended December 31, 2015 and 2014 has been conformed to the 2016 presentation.

The following tables display selected financial data for the Corporation's reportable business segments.

Selected Financial Data by Business Segment

years ended December 31
(add 000)

Total revenues	2016	2015	2014
Mid-America Group	\$ 1,017,098	\$ 926,251	\$ 848,855
Southeast Group	321,078	304,472	274,352
West Group	1,970,165	1,675,021	1,356,283
Total Aggregates Business	3,308,341	2,905,744	2,479,490
Cement	375,814	475,725	265,114
Magnesia Specialties	257,058	245,879	256,702
Less: Intersegment revenues	(122,464)	(87,778)	(43,355)
Total	\$ 3,818,749	\$ 3,539,570	\$ 2,957,951

Net sales	2016	2015	2014
Mid-America Group	\$ 945,123	\$ 851,854	\$ 770,568
Southeast Group	304,451	285,302	254,986
West Group	1,847,211	1,535,848	1,207,879
Total Aggregates Business	3,096,785	2,673,004	2,233,433
Cement	364,445	455,382	252,911
Magnesia Specialties	238,001	227,508	236,106
Less: Intersegment sales	(122,464)	(87,778)	(43,355)
Total	\$ 3,576,767	\$ 3,268,116	\$ 2,679,095

Gross profit (loss)	2016	2015	2014
Mid-America Group	\$ 305,794	\$ 256,586	\$ 216,883
Southeast Group	57,108	34,197	10,653
West Group	344,581	254,946	155,678
Total Aggregates Business	707,483	545,729	383,214
Cement	120,100	103,473	52,469
Magnesia Specialties	89,477	78,732	84,594
Corporate	(8,094)	(6,167)	2,083
Total	\$ 908,966	\$ 721,767	\$ 522,360

years ended December 31
(add 000)

Selling, general and administrative expenses	2016	2015	2014
Mid-America Group	\$ 53,022	\$ 52,606	\$ 52,217
Southeast Group	17,325	18,467	17,788
West Group	71,531	66,639	50,147
Total Aggregates Business	141,878	137,712	120,152
Cement	24,798	26,626	12,741
Magnesia Specialties	9,694	9,499	9,776
Corporate	71,635	44,397	26,576
Total	\$ 248,005	\$ 218,234	\$ 169,245

Earnings (Loss) from operations	2016	2015	2014
Mid-America Group	\$ 257,347	\$ 206,820	\$ 172,208
Southeast Group	41,396	16,435	(5,293)
West Group	277,249	205,699	153,182
Total Aggregates Business	575,992	428,954	320,097
Cement	99,362	47,821	40,751
Magnesia Specialties	79,104	68,886	74,805
Corporate	(87,137)	(66,245)	(120,780)
Total	\$ 667,321	\$ 479,416	\$ 314,873

Intersegment revenues and intersegment sales represent Cement business sales to the West Group's ready mixed concrete business.

years ended December 31
(add 000)

Assets employed	2016	2015	2014
Mid-America Group	\$ 1,406,526	\$ 1,304,574	\$ 1,290,833
Southeast Group	594,967	583,369	604,044
West Group	2,981,701	2,621,636	2,444,400
Total Aggregates Business	4,983,194	4,509,579	4,339,277
Cement	1,922,317	1,939,796	2,451,799
Magnesia Specialties	150,969	147,795	150,359
Corporate	244,425	360,441	273,082
Total	\$ 7,300,905	\$ 6,957,611	\$ 7,214,517

Depreciation, depletion and amortization	2016	2015	2014
Mid-America Group	\$ 64,295	\$ 61,693	\$ 63,294
Southeast Group	30,590	31,644	31,955
West Group	119,819	93,947	74,283
Total Aggregates Business	214,704	187,284	169,532
Cement	44,834	53,672	30,620
Magnesia Specialties	12,865	13,769	10,394
Corporate	12,850	8,862	12,200
Total	\$ 285,253	\$ 263,587	\$ 222,746

NOTES TO FINANCIAL STATEMENTS (continued)

years ended December 31
(add 000)

	2016	2015	2014
Total property additions			
Mid-America Group	\$ 152,014	\$ 77,640	\$ 76,753
Southeast Group	30,588	12,155	23,326
West Group	310,162	235,245	753,342
Total Aggregates Business	492,764	325,040	853,421
Cement	28,633	9,599	975,063
Magnesia Specialties	8,944	8,916	2,588
Corporate	10,430	20,561	15,349
Total	\$ 540,771	\$ 364,116	\$ 1,846,421

Property additions through acquisitions

	2016	2015	2014
Mid-America Group	\$ 1,524	\$ 4,385	\$ -
Southeast Group	-	-	-
West Group	132,112	35,965	632,560
Total Aggregates Business	133,636	40,350	632,560
Cement	-	-	970,300
Magnesia Specialties	-	-	-
Corporate	-	-	-
Total	\$ 133,636	\$ 40,350	\$ 1,602,860

The Aggregates business includes the aggregates product line and aggregates-related downstream product lines, which include the asphalt/paving and ready mixed concrete product lines. All aggregates-related downstream product lines reside in the West Group. The following tables, which are reconciled to consolidated amounts, provide total revenues, net sales and gross profit by line of business: Aggregates (further divided by product line), Cement and Magnesia Specialties. Interproduct revenues and interproduct sales represent sales from the aggregates product line to the asphalt/paving and ready mixed concrete product lines. Intersegment revenues and intersegment sales represent cement product line sales to the ready mixed concrete product line.

years ended December 31
(add 000)

	2016	2015	2014
Total revenues			
Aggregates	\$ 2,267,574	\$ 2,120,245	\$ 1,880,074
Asphalt/Paving	345,134	290,966	303,777
Ready Mixed Concrete	903,803	657,831	431,383
Less: Interproduct revenues	(208,170)	(163,298)	(135,744)
Total Aggregates Business	3,308,341	2,905,744	2,479,490
Cement	375,814	475,725	265,114
Magnesia Specialties	257,058	245,879	256,702
Less: Intersegment revenues	(122,464)	(87,778)	(43,355)
Total	\$ 3,818,749	\$ 3,539,570	\$ 2,957,951

	2016	2015	2014
Net sales			
Aggregates	\$ 2,060,876	\$ 1,896,143	\$ 1,644,265
Asphalt/Paving	341,444	283,628	294,239
Ready Mixed Concrete	902,635	656,531	430,673
Less: Interproduct sales	(208,170)	(163,298)	(135,744)
Total Aggregates Business	3,096,785	2,673,004	2,233,433
Cement	364,445	455,382	252,911
Magnesia Specialties	238,001	227,508	236,106
Less: Intersegment sales	(122,464)	(87,778)	(43,355)
Total	\$ 3,576,767	\$ 3,268,116	\$ 2,679,095

Gross profit (loss)

	2016	2015	2014
Aggregates	\$ 554,801	\$ 467,053	\$ 324,093
Asphalt/Paving	53,569	35,734	19,992
Ready Mixed Concrete	99,113	42,942	39,129
Total Aggregates Business	707,483	545,729	383,214
Cement	120,100	103,473	52,469
Magnesia Specialties	89,477	78,732	84,594
Corporate	(8,094)	(6,167)	2,083
Total	\$ 908,966	\$ 721,767	\$ 522,360

Domestic and foreign total revenues are as follows:

years ended December 31
(add 000)

	2016	2015	2014
Domestic	\$ 3,761,651	\$ 3,493,462	\$ 2,912,115
Foreign	57,098	46,108	45,836
Total	\$ 3,818,749	\$ 3,539,570	\$ 2,957,951

Note P: Supplemental Cash Flow Information

The components of the change in other assets and liabilities, net, are as follows:

years ended December 31
(add 000)

	2016	2015	2014
Other current and noncurrent assets	\$ 9,171	\$ (3,631)	\$ 8,066
Accrued salaries, benefits and payroll taxes	13,155	(12,303)	10,136
Accrued insurance and other taxes	(2,688)	4,425	(17,641)
Accrued income taxes	(12,523)	(4,364)	27,680
Accrued pension, postretirement and postemployment benefits	(15,955)	(18,153)	1,150
Other current and noncurrent liabilities	(6,053)	(3,014)	(10,681)
Change in other assets and liabilities, net	\$ (14,893)	\$ (37,040)	\$ 18,710

The changes in accrued salaries, benefits and payroll taxes reflect an increase in accrued incentive compensation in 2016, TXI-related severance payments of \$9,682,000 in 2015 and TXI-related severance accrual of \$11,444,000 in 2014. The changes in accrued income taxes reflects the utilization of deferred tax assets related to the AMT credit carryforward in 2016 and NOL carryforwards in 2016 and 2015. Additionally, in 2015, the Corporation received the federal tax refunds attributable to the settlement of the U.S. Advanced Pricing Agreement. The change in accrued pension, postretirement and postemployment benefits in 2015 was attributable to higher pension plan funding, which increased \$28,270,000.

Noncash investing and financing activities are as follows:

<i>years ended December 31</i> (add 000)	2016	2015	2014
Noncash investing and financing activities:			
Accrued liabilities for purchases of property, plant and equipment	\$ 38,566	\$ 22,285	\$ 31,172
Acquisition of assets through capital lease	\$ 1,399	\$ 1,445	\$ 7,788
Acquisition of assets through asset exchange	\$ -	\$ 5,000	\$ 2,091
Seller financing of land purchase	\$ -	\$ -	\$ 1,500
Acquisition of TXI net assets through issuances of common stock and options	\$ -	\$ -	\$ 2,691,986

Supplemental disclosures of cash flow information are as follows:

<i>years ended December 31</i> (add 000)	2016	2015	2014
Cash paid for interest	\$ 73,664	\$ 71,011	\$ 81,304
Cash paid for income taxes	\$ 124,342	\$ 46,774	\$ 15,955

INTRODUCTORY OVERVIEW

Martin Marietta Materials, Inc. (the "Corporation" or "Martin Marietta") is a leading supplier of aggregates products (crushed stone, sand and gravel) used in the construction of infrastructure, nonresidential and residential projects. Aggregates products are also used for railroad ballast and in agricultural, utility and environmental applications. In addition, the Corporation is a leading supplier of cement, ready mixed concrete and asphalt and paving services in some regions where being able to supply a full range of products is important for customer service. The Corporation also has a Magnesia Specialties business which produces magnesia-based chemicals products, used in industrial, agricultural and environmental applications, and dolomitic lime, which is sold primarily to customers in the steel industry.

The Corporation's consolidated net sales and operating earnings are predominately derived from its Aggregates business, which mines and processes granite, limestone, sand and gravel. The Aggregates business includes aggregates-related downstream operations, namely heavy building materials such as ready mixed concrete, asphalt and road paving construction services.

The Corporation's primary objective is to maximize long-term shareholder return by remaining disciplined in the pursuit of strategic growth and earnings objectives. Management executes its commitment to this overarching goal through the Corporation's core foundational pillars as follows:

- Safety – protecting the well-being of all who come in contact with the Corporation's business and achieving world-class safety measures
- Ethics – conducting business in compliance with applicable laws, rules, regulations and the highest ethical values
- Sustainability – reflecting all aspects of good corporate citizenship by being responsible neighbors and supporting local communities; and protecting the Earth's resources and minimizing the operations' environmental impact
- Operational Excellence – executing the Corporation's strategic growth plan, sustaining its competitive advantages and committing to its core competencies
- Cost Discipline – increasing earnings through portfolio optimization and capital allocation
- Customer Satisfaction – maintaining positive customer relationships and being selected as the supplier of choice

Consolidated Strategic Objectives

The Corporation views its strategic objectives through the lens of building on the foundation of a world-class organization. Consistent with this premise, the Corporation's Board of Directors and management continue to assess business combinations and arrangements with other companies engaged in similar or complementary businesses that increase the Corporation's presence in its strategic businesses or provide new opportunities in markets that the Corporation views as attractive. In the opinion of management, attractive aggregates markets exhibit population growth or population density, drivers of construction materials consumption and large-scale infrastructure networks; business and employment diversity, a driver of greater economic stability; and superior state financial position, a driver of public infrastructure growth. With further economic recovery, management anticipates the number of acquisition opportunities should increase as sellers view options for monetizing improving earnings.

In light of these objectives, management intends to emphasize, among other things, the following strategic, financial and operational initiatives in 2017:

Strategic:

- Pursuing aggregates-led expansion through acquisitions that complement existing operations (i.e., bolt-on acquisitions) and acquisitions that provide leadership positions in new markets or similar product lines (i.e., platform acquisitions)
- Leveraging the Corporation's competitive advantage from the Corporation's long-haul distribution network
- Optimizing the Corporation's current asset base to continue to enhance long-term shareholder value
- Realizing incremental value from possible divestiture of identified non-strategic or surplus assets
- Increasing the percentage of markets where the Corporation has a leading position

Financial:

- Maintaining the Corporation's strong financial position while advancing strategic objectives
- Maintaining the incremental gross margin (excluding freight and delivery revenues) of the aggregates product line at management's targeted goal of an average of 60% over the course of recovery in the business cycle, including recovery in the southeastern U.S. markets
- Maximizing return on invested capital consistent with the successful long-term operation of the Corporation's business
- Returning cash to shareholders through meaningful and sustainable dividends and share repurchases

Operational:

- Continuing to focus on sustainability practices, including improved safety performance
- Maintaining a focus on functional excellence leading to cost discipline and operational efficiencies
- Investing in value-added growth initiatives and successfully integrating them with the Corporation's heritage operations
- Using best practices and information technology to drive improved cost performance
- Ensuring quality products are available in high-growth markets
- Sustaining the industry differentiating performance and operating results of the Magnesias Specialties segment

2016 Performance Highlights**Operating Results:**

- Record earnings per diluted share of \$6.63
- Record net earnings attributable to Martin Marietta of \$425 million, an increase of 47% over 2015
- Record consolidated earnings before interest expense, income taxes, depreciation, depletion and amortization ("EBITDA") of \$971.6 million
- Return on shareholders' equity of 10.4%
- Total shareholders' return of 64%
- Aggregates product line pricing increase of 7.3% and volume growth of 1.4%, both compared with 2015
- Record Magnesias Specialties' net sales of \$238.0 million and earnings from operations of \$79.1 million
- Effective management of controllable production costs, as evidenced by a 330-basis-point improvement in consolidated gross margin (excluding freight and delivery revenues) over 2015
- Selling, general and administrative ("SG&A") expenses of 6.9% as a percentage of net sales

Cash Flows:

- Operating cash flow of \$678.7 million, up 18.4% over 2015
- Return of \$364.2 million of cash to shareholders through share repurchases (\$259.2 million) and dividends (\$105.0 million)
- Ratio of consolidated net debt-to-consolidated EBITDA of 1.7 times for the trailing-twelve months ended December 31, 2016, calculated as prescribed in the Corporation's bank credit agreements and was in compliance with the covenant maximum of 3.5 times

- Property, plant and equipment additions for the year were \$403.5 million; cash paid during the year for capital additions was \$387.3 million; capital plan focused on maintaining safe, environmentally-sound operations and increasing operating efficiencies along with a continuing investment in land with long-term mineral reserves to serve high-growth markets

Operations:

- Issued the Corporation's Sustainability Report, highlighting the Corporation's continuing commitment to sustainability as a core business value:
 - Unwavering commitment to safety
 - Continued to support the communities where the Corporation operates
 - Remained committed to being responsible environmental stewards to reduce the environmental impact of the Corporation's operations
 - Committed to employee well-being by providing first-class benefits, including, but not limited to, employee disaster relief assistance, education assistance and scholarships
- Completed two strategic acquisitions:
 - Rocky Mountain Materials – expanded the Corporation's position along the Front Range of the Rocky Mountains; provided more than 500 million tons of high-quality aggregates reserves
 - Ratliff Ready Mix – buyout of remaining interest in ready mixed concrete company that serves the I-35 corridor between Dallas and Austin; enhanced market position and provided additional vertical integration benefits with existing cement business

Aggregates Business

In 2016, the Aggregates business shipped 158.6 million tons of aggregates from a network of nearly 300 aggregates quarries and distribution yards in 26 states, Canada and the Bahamas. These shipments included 10.4 million tons consumed by the business' aggregates-related downstream operations. The Corporation also shipped 8.5 million cubic yards of ready mixed concrete from approximately 150 plants primarily located in the high-growth states of Texas and Colorado. The asphalt operations shipped 1.0 million tons of asphalt and additionally used 2.1 million tons of asphalt in the Aggregates business' paving operations. While the Aggregates business covers a wide geographic

area, financial results depend on the strength of the local economies because of the cost of transportation relative to the price of the products. The Aggregates business' top five sales-generating states – Texas, Colorado, North Carolina, Iowa and Georgia – accounted for 73% of its 2016 net sales by state of destination, while the top ten sales-generating states accounted for 87% of its 2016 net sales. Management closely monitors economic conditions and public infrastructure spending in the market areas in the states where the Corporation's operations are located. Further, supply and demand conditions in these states affect their respective profitability.

At December 31, 2016, the Aggregates business was organized as follows:

AGGREGATES BUSINESS

Reportable Segments	Mid-America Group	Southeast Group	West Group
Operating Locations	Indiana, Iowa, northern Kansas, Kentucky, Maryland, Minnesota, Missouri, eastern Nebraska, North Carolina, Ohio, South Carolina, Virginia, Washington and West Virginia	Alabama, Florida, Georgia, Tennessee, Nova Scotia and the Bahamas	Arkansas, Colorado, southern Kansas, Louisiana, western Nebraska, Nevada, Oklahoma, Texas, Utah and Wyoming
Product Lines	Aggregates (crushed stone, sand and gravel)	Aggregates (crushed stone, sand and gravel)	Aggregates (crushed stone, sand and gravel), asphalt and paving and ready mixed concrete
Types of Aggregates Locations	Quarries and Distribution Facilities	Quarries and Distribution Facilities	Quarries, Plants and Distribution Facilities
Modes of Transportation for Aggregates Product Line	Truck and Rail	Truck, Rail and Water	Truck and Rail

The construction aggregates industry is a mature, cyclical business dependent on activity within the construction marketplace. In 2016, the Corporation's aggregates product line shipments increased 1.4% compared with 2015. The Corporation's aggregates product line shipments have increased each of the past five years, reflecting degrees of stability and modest growth. However, aggregates volumes are still below historically normal levels. Prior to 2011, the economic recession resulted in United States aggregates consumption declining by almost 40% from peak volumes in 2006.

Aggregates Product Line

As mentioned earlier, the principal end-use markets of the aggregates industry are public infrastructure (i.e., highways; streets; roads; bridges; and schools); nonresidential construction (i.e., manufacturing and distribution facilities; industrial complexes; office buildings; large retailers and wholesalers; and malls); and residential construction (i.e., subdivision development; and single- and multi-family housing). Aggregates products are also used in the railroad, agricultural, utility and environmental industries. Ballast is an aggregates product used to stabilize railroad track beds and, increasingly, concrete rail ties are being used as a substitute for wooden ties. Agricultural lime, a high-calcium carbonate material, is used as a supplement in animal feed, a soil acidity neutralizer and agricultural growth enhancer. High-calcium limestone is used as filler in glass, plastic, paint, rubber, adhesives, grease and paper. Chemical-grade, high-calcium limestone is used as a desulfurization material in utility plants. Stone is used as a stabilizing material to control erosion caused by water runoff or at ocean beaches, inlets, rivers and streams. The following presents the end-use distribution of aggregates product line shipments:

MARKETS AGGREGATES PRODUCT LINE (Estimated percentage of shipments)

	2012	2013	2014	2015	2016	5-Year Avg.
Infrastructure	47%	48%	44%	42%	39%	44%
Nonresidential	29%	29%	32%	31%	32%	31%
Residential	12%	12%	14%	17%	21%	15%
ChemRock/ Rail	12%	11%	10%	10%	8%	10%

Source: Corporation data

End-use markets respond to changing economic conditions in different ways. Public infrastructure construction has historically been more stable than nonresidential and residential construction due to typically stable and predictable funding from federal, state and local governments, with approximately half from the federal government and half from state and local governments. However, after uncertainty regarding the solvency of the Highway Bill in 2014, the Corporation experienced a slight retraction in aggregates shipments to the infrastructure end-use market. After a decade of 36 short-term funding provisions, a five-year, \$305 billion highway bill, *Fixing America's Surface Transportation Act* ("FAST Act" or "Act"), was signed into law on December 4, 2015. Funding for the FAST Act will primarily be secured through gas tax collections and will enable states to purchase and use an estimated additional 114 million tons of aggregates over the life of the Act. Over the past 24 months, many states have taken on a significantly larger role in funding infrastructure investment, including initiating special-purpose taxes and raising gas taxes. Overall, the infrastructure market accounted for 39% of the Corporation's 2016 aggregates product line shipments.

Nonresidential and residential construction levels are interest rate-sensitive and typically move in direct correlation with economic cycles. The Dodge Momentum Index, a twelve-month leading indicator of construction spending for non-residential building compiled by McGraw Hill Construction and where the year 2000 serves as an index basis of 100, remained strong and was at an eight-year high of 136.7 in December 2016, a 9% increase over prior year, signaling continued growth in nonresidential construction. Housing starts, a key indicator for residential construction activity, continued to show year-over-year improvement. While starts exceeded one million in 2016, they still remain below the 50-year historical annual average of 1.5 million units. That said, the Corporation expects to continue to experience gains in the residential market. Importantly, 2016 housing starts exceeded completions, a trend expected to continue in 2017.

Aggregates-Related Downstream Businesses

The aggregates-related downstream businesses, which include ready mixed concrete and asphalt and paving operations, have inherently lower gross margins (excluding freight and delivery revenues) than the aggregates product line. Market dynamics for these operations include a highly competitive environment and lower barriers to entry. Liquid asphalt, or bitumen, and cement are key raw materials in the production of hot mix asphalt and ready mixed concrete, respectively. Therefore, fluctuations in prices for these raw materials directly affect the Corporation's operating results. Liquid asphalt prices in 2016 were lower than in 2015, but may not always follow other energy products (e.g., oil or diesel fuel) because of complexities in the refining process which converts a barrel of oil into other fuels and petrochemical products. Shipments of aggregates-related downstream products typically follow construction aggregates trends.

Cement Business

The Cement business includes a leading position in the Texas cement markets, with production facilities in Midlothian, Texas, south of Dallas-Fort Worth, and Hunter, Texas, north of San Antonio. These plants produce Portland and specialty cements and have a combined annual capacity of 4.5 million tons, as well as a current permit that provides an 800,000-ton-expansion opportunity at the Midlothian plant. In addition to the production facilities, the Corporation operates several cement distribution terminals. The Corporation owns more than 600 million tons of limestone reserves adjacent to its cement production plants. Calcium carbonate in the form of limestone is the principal raw material used in the production of cement.

Similar to the Aggregates business, cement is used in infrastructure projects; nonresidential and residential construction; and railroad, aggregates, utility and environmental industries. Further, cement is the basic binding agent for concrete, a primary construction material. Consequently, the cement industry is cyclical and dependent on the strength of the construction sector. In 2016, the Corporation shipped 3.5 million tons of cement, consisting of 2.3 million tons to external customers in five states and 1.2 million tons for internal use. The Portland Cement Association ("PCA") forecasts a 3% increase in demand in Texas in 2017 over

2016. The Cement business' leadership, in collaboration with the aggregates and ready mixed concrete teams, have developed strategic plans regarding interplant efficiencies, as well as tactical plans addressing plant utilization and efficiency. In 2016, the cement plants operated on average at 76% utilization.

Energy, including electricity and fossil fuels, accounts for 22% of the cement production cost profile. Therefore, profitability of the Cement business is affected by changes in energy prices and the available supply of these products. The Corporation currently has fixed-price supply contracts for coal but also consumes natural gas, diesel and alternative fuels and petroleum coke. Further, profitability of the Cement business is also subject to kiln maintenance. This process typically requires a plant to be shut down for a period of time as repairs are made. In 2016, the Cement business incurred kiln maintenance costs of \$20.9 million.

Magnesia Specialties Business

The Magnesia Specialties business produces and sells dolomitic lime from its Woodville, Ohio facility and magnesia-based chemicals from its Manistee, Michigan facility. In 2016, this business achieved record net sales, gross profit and earnings from operations of \$238.0 million, \$89.5 million and \$79.1 million, respectively. The dolomitic lime business, which represented 30% of Magnesia Specialties' 2016 net sales, is dependent on the steel industry and operating results are affected by cyclical changes in that industry. The dolomitic lime business runs most profitably at 70% or greater steel capacity utilization; domestic capacity utilization averaged 71% in 2016. The chemical products business focuses on higher-margin specialty chemicals that can be produced at volumes that support efficient operations.

A significant portion of costs related to the production of dolomitic lime and magnesia chemical products is of a fixed or semi-fixed nature. The production of dolomitic lime and certain magnesia chemical products also requires the use of natural gas, coal and petroleum coke. Therefore, fluctuations in their pricing directly affect operating results. The Corporation has fixed-price supply contracts for natural gas, coal and petroleum coke to help mitigate this risk. For 2016, the Corporation's average cost per MCF (thousand cubic feet) for natural gas decreased 25% from 2015.

Liquidity and Capital Allocation

The Corporation's cash flows are generated primarily from operations. Operating cash flows generally fund working capital needs, capital expenditures, dividends, share repurchases and smaller acquisitions. The Corporation has capital allocation priorities in the following order:

- Acquisitions – execution of strategic growth plan
- Organic capital investment – above-maintenance level of capital spending expected over next five years
- Return of cash to shareholders:
 - Dividends – increased quarterly cash dividend 5% to \$0.42 in August 2016
 - Share repurchases – initial authorization of 20.0 million shares; 15.1 million shares remaining

During 2016, the Corporation generated operating cash flow of \$679 million. Significant uses of cash during the year included \$387 million for capital expenditures (additions for the year were \$404 million), \$179 million for acquisitions, \$105 million for dividends, \$259 million for repurchases of the Corporation's common stock and \$45 million for pension plan contributions.

Cash and cash equivalents on hand of \$50 million at December 31, 2016, along with the Corporation's projected internal cash flows and its available financing resources, including access to debt and equity markets, as needed, is expected to continue to be sufficient to provide the capital resources necessary to support anticipated operating needs, cover debt service requirements, satisfy non-cancelable agreements, meet capital expenditures and discretionary investment needs, fund certain acquisition opportunities that may arise and allow for payment of dividends for the foreseeable future. The Corporation has a \$300 million trade receivable securitization facility (the "Trade Receivable Facility"). The Corporation also has a \$700 million five-year senior unsecured revolving facility (the "Revolving Facility") with a syndicate of banks. At December 31, 2016, the Corporation had combined unused borrowing capacity of \$658 million under the Trade Receivable Facility and Revolving Facility.

FINANCIAL OVERVIEW

Highlights of 2016 Financial Performance
(all comparisons are versus 2015)

- Record earnings per diluted share of \$6.63 compared with \$4.29
- Record net earnings attributable to Martin Marietta of \$425.4 million, an increase of 47%
- Record consolidated EBITDA of \$971.6 million compared with \$750.7 million
- Record consolidated net sales of \$3.58 billion compared with \$3.27 billion, an increase of 9.4%
- Aggregates product line pricing increase of 7.3%; aggregates product line volume increase of 1.4%
- Aggregates-related downstream businesses net sales of \$1.24 billion and gross profit of \$152.7 million
- Cement business net sales of \$364.4 million and gross profit of \$120.1 million
- Record Magnesias Specialties net sales of \$238.0 million and gross profit of \$89.5 million
- Record consolidated earnings from operations of \$667.3 million compared with \$479.4 million, a 39% increase

Results of Operations

The discussion and analysis that follow reflect management's assessment of the financial condition and results of operations of the Corporation and should be read in conjunction with the audited consolidated financial statements on pages 10 through 40. As discussed in more detail herein, the Corporation's operating results are highly dependent upon activity within the construction marketplace, economic cycles within the public and private business sectors and seasonal and other weather-related conditions. In 2016 and 2015, many areas in the United States experienced significant amounts of precipitation. In fact, in 2015, Texas and Oklahoma each had its wettest year and the nation as a whole had its third wettest year in National Oceanic and Atmospheric Administration's ("NOAA") recorded history of 122 years. Net sales, production and cost structure were adversely affected by the significant precipitation. In 2016, Texas experienced more heavy rainfall, with the year ranking the 18th wettest year in the state's recorded history per NOAA. Further, since March 2015, Texas and surrounding regions have experienced 18 major flood events. Accordingly, the financial results for any year, notably 2016 and 2015, or year-to-year comparisons of reported results, may not be indicative of future operating results.

The Corporation's Aggregates business generated the majority of consolidated net sales and consolidated operating earnings. Furthermore, management presents certain key performance indicators for the Aggregates business. The following comparative analysis and discussion should be read within these contexts. Further, sensitivity analysis and certain other data are provided to enhance the reader's understanding of Management's Discussion and Analysis of Financial Condition and Results of Operations and are not intended to be indicative of management's judgment of materiality.

The Corporation's consolidated operating results and operating results as a percentage of net sales are as follows:

years ended December 31 (add 000, except for % of net sales)	2016	% of Net Sales	2015	% of Net Sales	2014 ¹	% of Net Sales
Net sales	\$ 3,576,767	100.0%	\$ 3,268,116	100.0%	\$ 2,679,095	100.0%
Freight and delivery revenues	241,982		271,454		278,856	
Total revenues	3,818,749		3,539,570		2,957,951	
Cost of sales	2,667,801	74.6	2,546,349	77.9	2,156,735	80.5
Freight and delivery costs	241,982		271,454		278,856	
Total cost of revenues	2,909,783		2,817,803		2,435,591	
Gross profit	908,966	25.4	721,767	22.1	522,360	19.5
Selling, general and administrative expenses	248,005	6.9	218,234	6.7	169,245	6.3
Acquisition related expenses, net	1,683	0.0	8,464	0.3	42,891	1.6
Other operating (income) and expenses, net	(8,043)	(0.2)	15,653	0.5	(4,649)	(0.2)
Earnings from operations	667,321	18.7	479,416	14.7	314,873	11.8
Interest expense	81,677	2.3	76,287	2.3	66,057	2.5
Other nonoperating income, net	(21,384)	(0.6)	(10,672)	(0.3)	(362)	—
Earnings from continuing operations before taxes on income	607,028	17.0	413,801	12.7	249,178	9.3
Taxes on income	181,584	5.1	124,863	3.8	94,847	3.5
Earnings from continuing operations	425,444	11.9	288,938	8.8	154,331	5.8
Loss on discontinued operations, net of taxes	—	—	—	—	(37)	—
Consolidated net earnings	425,444	11.9	288,938	8.8	154,294	5.8
Less: Net earnings (loss) attributable to noncontrolling interests	58	—	146	—	(1,307)	—
Net Earnings Attributable to Martin Marietta	\$ 425,386	11.9%	\$ 288,792	8.8%	\$ 155,601	5.8%

¹ 2014 results reflect six months of TXI operations.

The comparative analysis in this Management's Discussion and Analysis of Financial Condition and Results of Operations is based on net sales and cost of sales. However, gross margin as a percentage of net sales represents a non-GAAP measure. The Corporation presents this ratio based on net sales, as it is consistent with the basis by which management reviews the Corporation's operating results. Further, management believes it is consistent with the basis by which investors analyze the Corporation's operating results given that freight and delivery revenues and costs represent pass-throughs and have no profit mark-up. Gross margin calculated as a percentage of total revenues represents the most directly comparable financial measure calculated in accordance with generally accepted accounting principles ("GAAP").

EBITDA is a widely accepted financial indicator of a company's ability to service and/or incur indebtedness. EBITDA is not defined by GAAP and, as such, should not be construed as an alternative to net earnings or operating cash flow.

Adjusted consolidated earnings from operations and adjusted earnings per diluted share ("Adjusted EPS") are non-GAAP measures which exclude the impact of TXI acquisition-related expenses, net; the impact of the markup of acquired inventory to fair value; and the gain or loss on business divestitures. The Corporation presents these measures to allow investors to analyze and forecast the Corporation's operating results given that these costs do not reflect the ongoing cost of its operations. These non-GAAP measures are not necessarily comparable to similarly-titled measures used by other companies.

The following tables present (i) the calculations of gross margin in accordance with GAAP and reconciliations of the ratios as percentages of total revenues to percentages of net sales; (ii) a reconciliation of net earnings attributable to Martin Marietta to consolidated EBITDA; and (iii) the reconciliations of adjusted consolidated earnings from operations and adjusted earnings per diluted share to the nearest measures in accordance with GAAP:

Consolidated Gross Margin in Accordance with GAAP

<i>years ended December 31</i> (add 000, except margin %)	2016	2015	2014
Gross profit	\$ 908,966	\$ 721,767	\$ 522,360
Total revenues	\$ 3,818,749	\$ 3,539,570	\$ 2,957,951
Gross margin	23.8%	20.4%	17.7%

**Consolidated Gross Margin
(Excluding Freight and Delivery Revenues)**

<i>years ended December 31</i> (add 000, except margin %)	2016	2015	2014
Gross profit	\$ 908,966	\$ 721,767	\$ 522,360
Total revenues	\$ 3,818,749	\$ 3,539,570	\$ 2,957,951
Less: Freight and delivery revenues	(241,982)	(271,454)	(278,856)
Net sales	\$ 3,576,767	\$ 3,268,116	\$ 2,679,095
Gross margin (excluding freight and delivery revenues)	25.4%	22.1%	19.5%

Aggregates Business Gross Margin in Accordance with GAAP

<i>years ended December 31</i> (add 000, except margin %)	2016	2015	2014
Gross profit	\$ 707,483	\$ 545,728	\$ 383,214
Total revenues	\$ 3,308,341	\$ 2,905,744	\$ 2,479,490
Gross margin	21.4%	18.8%	15.5%

**Aggregates Business Gross Margin
(Excluding Freight and Delivery Revenues)**

<i>years ended December 31</i> (add 000, except margin %)	2016	2015	2014
Gross profit	\$ 707,483	\$ 545,728	\$ 383,214
Total revenues	\$ 3,308,341	\$ 2,905,744	\$ 2,479,490
Less: Freight and delivery revenues	(211,556)	(232,740)	(246,057)
Net sales	\$ 3,096,785	\$ 2,673,004	\$ 2,233,433
Gross margin (excluding freight and delivery revenues)	22.8%	20.4%	17.2%

Mid-America Group Gross Margin in Accordance with GAAP

<i>years ended December 31</i> (add 000, except margin %)	2016	2015	2014
Gross profit	\$ 305,794	\$ 256,586	\$ 216,883
Total revenues	\$ 1,017,098	\$ 926,251	\$ 848,855
Gross margin	30.1%	27.7%	25.6%

**Mid-America Group Gross Margin
(Excluding Freight and Delivery Revenues)**

<i>years ended December 31</i> (add 000, except margin %)	2016	2015	2014
Gross profit	\$ 305,794	\$ 256,586	\$ 216,883
Total revenues	\$ 1,017,098	\$ 926,251	\$ 848,855
Less: Freight and delivery revenues	(71,975)	(74,397)	(78,287)
Net sales	\$ 945,123	\$ 851,854	\$ 770,568
Gross margin (excluding freight and delivery revenues)	32.4%	30.1%	28.1%

Southeast Group Gross Margin in Accordance with GAAP

<i>years ended December 31</i> (add 000, except margin %)	2016	2015	2014
Gross profit	\$ 57,108	\$ 34,197	\$ 10,653
Total revenues	\$ 321,078	\$ 304,472	\$ 274,352
Gross margin	17.8%	11.2%	3.9%

**Southeast Group Gross Margin
(Excluding Freight and Delivery Revenues)**

<i>years ended December 31</i> (add 000, except margin %)	2016	2015	2014
Gross profit	\$ 57,108	\$ 34,197	\$ 10,653
Total revenues	\$ 321,078	\$ 304,472	\$ 274,352
Less: Freight and delivery revenues	(16,627)	(19,170)	(19,366)
Net sales	\$ 304,451	\$ 285,302	\$ 254,986
Gross margin (excluding freight and delivery revenues)	18.8%	12.0%	4.2%

West Group Gross Margin in Accordance with GAAP

<i>years ended December 31</i> (add 000, except margin %)	2016	2015	2014
Gross profit	\$ 344,581	\$ 254,946	\$ 155,678
Total revenues	\$ 1,970,165	\$ 1,675,021	\$ 1,356,283
Gross margin	17.5%	15.2%	11.5%

**West Group Gross Margin
(Excluding Freight and Delivery Revenues)**

years ended December 31 (add 000, except margin %)	2016	2015	2014
Gross profit	\$ 344,581	\$ 254,946	\$ 155,678
Total revenues	\$ 1,970,165	\$ 1,675,021	\$ 1,356,283
Less: Freight and delivery revenues	(122,954)	(139,173)	(148,404)
Net sales	\$ 1,847,211	\$ 1,535,848	\$ 1,207,879
Gross margin (excluding freight and delivery revenues)	18.7%	16.6%	12.9%

Cement Gross Margin in Accordance with GAAP

years ended December 31 (add 000, except margin %)	2016	2015	2014
Gross profit	\$ 120,100	\$ 103,473	\$ 52,469
Total revenues	\$ 375,813	\$ 475,725	\$ 265,115
Gross margin	32.0%	21.8%	19.8%

**Cement Gross Margin
(Excluding Freight and Delivery Revenues)**

years ended December 31 (add 000, except margin %)	2016	2015	2014
Gross profit	\$ 120,100	\$ 103,473	\$ 52,469
Total revenues	\$ 375,813	\$ 475,725	\$ 265,115
Less: Freight and delivery revenues	(11,368)	(20,343)	(12,204)
Net sales	\$ 364,445	\$ 455,382	\$ 252,911
Gross margin (excluding freight and delivery revenues)	33.0%	22.7%	20.7%

Magnesia Specialties Gross Margin in Accordance with GAAP

years ended December 31 (add 000, except margin %)	2016	2015	2014
Gross profit	\$ 89,477	\$ 78,732	\$ 84,594
Total revenues	\$ 257,059	\$ 245,879	\$ 256,702
Gross margin	34.8%	32.0%	33.0%

**Magnesia Specialties Gross Margin
(Excluding Freight and Delivery Revenues)**

years ended December 31 (add 000, except margin %)	2016	2015	2014
Gross profit	\$ 89,477	\$ 78,732	\$ 84,594
Total revenues	\$ 257,059	\$ 245,879	\$ 256,702
Less: Freight and delivery revenues	(19,058)	(18,371)	(20,596)
Net sales	\$ 238,001	\$ 227,508	\$ 236,106
Gross margin (excluding freight and delivery revenues)	37.6%	34.6%	35.8%

Consolidated EBITDA

years ended December 31 (add 000)	2016	2015	2014
Net earnings attributable to Martin			
Marietta	\$ 425,386	\$ 288,792	\$ 155,601
Add back:			
Interest expense	81,677	76,287	66,057
Income tax expense for controlling interests	181,524	124,793	94,730
Depreciation, depletion and amortization expense	283,003	260,836	220,552
Consolidated EBITDA	\$ 971,590	\$ 750,708	\$ 536,940

Adjusted Earnings from Operations

years ended December 31 (add 000)	2015	2014
Earnings from operations in accordance with generally accepted accounting principles	\$ 479,416	\$ 314,873
Add back:		
Loss on the sale of California cement operations	29,063	—
Impact of selling acquired inventory due to markup to fair value	—	11,124
TXI acquisition-related expenses, net	—	42,689
Less:		
Gain on the sale of San Antonio asphalt operations	(13,123)	—
Adjusted earnings from operations	\$ 495,356	\$ 368,686

Adjusted Earnings Per Diluted Share

years ended December 31	2015	2014
Earnings per diluted share in accordance with generally accepted accounting principles	\$ 4.29	\$ 2.71
Add back:		
Loss on sale of California cement operations	0.31	—
Impact of selling acquired inventory due to markup to fair value	—	0.12
TXI acquisition-related expenses, net	—	0.91
Less:		
Gain on sale of San Antonio asphalt operations	(0.10)	—
Adjusted earnings per diluted share	\$ 4.50	\$ 3.74

Net Sales

Net sales by reportable segment are as follows:

years ended December 31 (add 000)	2016	2015	2014 1
Aggregates Business:			
Mid-America Group	\$ 945,123	\$ 851,854	\$ 770,568
Southeast Group	304,451	285,302	254,986
West Group	1,847,211	1,535,848	1,207,879
Total Aggregates Business	3,096,785	2,673,004	2,233,433
Cement	364,445	455,382	252,911
Magnesia Specialties	238,001	227,508	236,106
Less: Intersegment sales 2	(122,464)	(87,778)	(43,355)
Total Consolidated	\$ 3,576,767	\$ 3,268,116	\$ 2,679,095

1 2014 results reflect six months of TXI operations.

2 Intersegment sales represent cement sales to the West Group.

Net sales by product line for the Corporation are as follows:

years ended December 31 (add 000)	2016	2015	2014 1
Aggregates Business:			
Aggregates	\$ 2,060,875	\$ 1,896,143	\$ 1,644,266
Asphalt/Paving	341,444	283,628	294,238
Ready Mixed Concrete	902,636	656,531	430,673
Less: Interproduct sales 2	(208,170)	(163,298)	(135,744)
Total Aggregates Business	3,096,785	2,673,004	2,233,433
Cement	364,445	455,382	252,911
Magnesia Specialties	238,001	227,508	236,106
Less: Intersegment sales 3	(122,464)	(87,778)	(43,355)
Total Consolidated	\$ 3,576,767	\$ 3,268,116	\$ 2,679,095

1 2014 results reflect six months of TXI operations.

2 Interproduct sales represents aggregates product line sales to the ready mixed concrete and asphalt/paving product lines.

3 Intersegment sales represents cement product line sales to the ready mixed concrete product line.

Aggregates Product Line. Aggregates product line average selling price increases are as follows:

years ended December 31	2016	2015	2014
Mid-America Group	4.3%	4.7%	3.8%
Southeast Group	7.1%	5.4%	6.4%
West Group	10.6%	13.5%	8.8%
Aggregates Product Line	7.3%	8.0%	4.5%

The average selling price per ton for the aggregates product line was \$12.88, \$12.00 and \$11.12 for 2016, 2015 and 2014, respectively.

In 2016 and 2015, the average selling price increase exceeded the Corporation's average of 4.2% for both the ten- and twenty-year periods ended December 31, 2016. The higher average selling price increase reflects supply and demand dynamics in the Corporation's markets. Average selling price increases in 2014 were in line with historical averages.

The following presents aggregates product line shipments for each reportable segment of the Aggregates business:

years ended December 31 Tons (add 000)	2016	2015	2014
Mid-America Group	73,060	68,611	64,947
Southeast Group	19,396	19,479	18,289
West Group	66,170	68,332	62,814
Aggregates Business	158,626	156,422	146,050

Aggregates product line shipments sold externally to customers and tons used in other product lines are as follows:

years ended December 31 Tons (add 000)	2016	2015	2014
Tons to external customers	148,198	147,197	138,222
Internal tons used in other product lines	10,428	9,225	7,828
Total Aggregates Tons	158,626	156,422	146,050

Aggregates product line volume variance by reportable segment is as follows:

years ended December 31	2016	2015	2014
Mid-America Group	6.5%	5.6%	3.1%
Southeast Group	(0.4%)	6.5%	6.0%
West Group	(3.2%)	8.6%	30.3%
Aggregates Product Line	1.4%	7.1%	13.7%

Shipments in 2016 and 2015 were negatively affected by wet weather, notably in the southwestern United States. Growth in 2016 was also hindered by certain infrastructure project delays, notably in Texas; a reduction in energy-sector shipments resulting from lower oil prices; and lower ballast shipments resulting from reduced activity on railroads. Aggregates product line volume strength in the Mid-America Group in 2016, relative to the other groups, is due to steady economic improvement, which is driving growth in office, retail, industrial and residential development in North Carolina and South Carolina.

Shipment growth in 2015 is primarily attributable to a full year of ownership of the legacy TXI aggregates operations, partially offset by the impact of historic levels of rainfall and a reduction in energy-sector shipments, notably for shale exploration. Shipment variances in 2015 for the Mid-America and Southeast Groups reflect the ongoing recovery in these markets, notably North Carolina, Georgia and Florida.

Aggregates-Related Downstream Operations. The Corporation's aggregates-related downstream operations include ready mixed concrete and asphalt and road paving businesses primarily located in the high-growth states of Texas and Colorado.

Average selling prices by product line for the Corporation's aggregates-related downstream operations are as follows:

years ended December 31	2016	2015	2014
Asphalt - tons	\$ 39.20	\$ 42.57	\$ 41.26
Ready Mixed Concrete - cubic yards	\$ 104.26	\$ 96.28	\$ 88.25

Unit shipments by product line for the Corporation's aggregates-related downstream operations are as follows:

years ended December 31 (add 000)	2016	2015	2014
Asphalt Product Line:			
Tons to external customers	1,023	1,220	1,508
Internal tons used in road paving business	2,131	1,697	1,807
Total asphalt tons	3,154	2,917	3,315
Ready Mixed Concrete - cubic yards	8,490	6,707	4,779

The fluctuations in asphalt shipments reflect the sale of the Corporation's San Antonio asphalt operations in the fourth quarter of 2015 and the acquisition of additional asphalt and road paving operations in Colorado in the first quarter of 2016. The increase in ready mixed concrete shipments in 2016 is attributable to favorable market conditions in Texas and Colorado and acquired locations in Central Texas. The increase in shipments in 2015 is attributable to a full year of TXI operations acquired mid-year 2014.

Cement. The Cement segment contributed \$364.4 million in net sales in 2016. Excluding \$96.4 million of net sales attributable to the California cement business, divested on September 30, 2015, from the prior-year, net sales increased 1.5%. Cement shipments in 2016 and 2015 were negatively affected by significant amounts of precipitation in Texas. The business shipped 3.5 million and 4.6 million tons of cement in 2016 and 2015 (the California operations accounted for 1.1 million tons in 2015), respectively. In 2016, 1.2 million tons of shipments were used internally in the Corporation's production of ready mixed concrete products. The Corporation expects the percentage of cement shipments used in the ready mix business to increase in 2017 based on a full year of ownership of the ready mix business acquired mid-year 2016.

Net sales for the second half of 2014 were \$252.9 million, of which \$68 million related to the California cement operations.

Magnesia Specialties. Magnesia Specialties' 2016 record net sales of \$238.0 million increased 4.6% compared with 2015, primarily attributable to the chemicals product line. 2015 net sales were negatively affected by lower domestic steel production and declined 3.6%.

Freight and Delivery Revenues and Costs

Freight and delivery revenues and costs represent pass-through transportation costs incurred when the Corporation arranges for a third-party carrier to deliver aggregates products to customers (see section Transportation Exposure on pages 64 through 66). These third-party freight costs are then billed to the customer.

Cost of Sales

Cost of sales increased 4.8% in 2016 and 18.1% in 2015, attributable to the increase in net sales of 9.4% and 22.0%, respectively. Significant precipitation hindered production and negatively affected operating leverage in both 2016 and 2015. Aggregates product line direct production cost per ton shipped for 2016 increased 3.8% compared with 2015, reflecting higher depreciation costs related to the Medina Rock and Rail capital project completed in central Texas at the end of 2015 and higher contract services for grading, drilling and short-term equipment rentals. On average, the Corporation paid \$1.96 per gallon of diesel fuel in 2016 compared with \$2.05 in 2015. The 2016 and 2015 cost per gallon reflects a fixed-price commitment for approximately 40% of the Corporation's diesel consumption that went into effect on July 1, 2015 and expired on December 31, 2016. The fixed price was \$0.30 per gallon higher than the spot rate for the majority of the contract period resulting in an additional \$13.2 million in costs. The diesel contract was not renewed for 2017.

Gross Profit

Gross profit (loss) by business is as follows:

years ended December 31 (add 000)	2016	2015	2014
Aggregates Business:			
Aggregates	\$ 554,801	\$ 467,053	\$ 324,093
Asphalt/Paving	53,569	35,734	19,992
Ready Mixed Concrete	99,113	42,942	39,129
Total Aggregates Business	707,483	545,729	383,214
Cement	120,100	103,473	52,469
Magnesia Specialties	89,477	78,732	84,594
Corporate	(8,094)	(6,167)	2,083
Total Consolidated Gross Profit	\$ 908,966	\$ 721,767	\$ 522,360

The Corporation improved its consolidated gross profit \$187.2 million in 2016 compared with 2015. The increase is supported by pricing strength and disciplined cost management and reflects growth in all businesses, led by the Aggregates business. Consolidated gross profit increased \$199.4 million in 2015 compared with 2014, primarily driven by a full year of ownership of legacy TXI operations and pricing strength.

The following presents a rollforward of the Corporation's consolidated gross profit:

years ended December 31 (add 000)	2016	2015
Consolidated gross profit, prior year	\$ 721,767	\$ 522,360
Aggregates product line:		
Pricing	138,286	138,618
Volume	26,446	115,495
Production costs	(60,150)	(87,070)
Internal freight costs	(22,193)	(23,364)
Other costs, net	5,361	(719)
Change in aggregates product line gross profit	87,750	142,960
Aggregates-related downstream business	74,005	19,554
Cement	16,627	51,004
Magnesia Specialties	10,745	(5,862)
Corporate	(1,928)	(8,249)
Change in consolidated gross profit	187,199	199,407
Consolidated gross profit, current year	\$ 908,966	\$ 721,767

Internal freight costs represent freight expenses to transport materials from a producing quarry to a distribution yard. The fluctuation in these costs in 2016 reflects increased shipments by rail to distribution yards, coupled with increased costs from rail service providers. These costs in 2015 were favorably affected by lower energy prices compared with 2014.

The improvement in aggregates-related downstream business' gross profit in 2016 is due to increased demand and pricing growth. The Cement business' gross profit increase in 2016 is attributable to operational improvements, pricing strength and refunds and rebates from electrical providers. The growth in the Magnesia Specialties' gross profit from 2015 to 2016 is attributable to increased chemical sales, a decline in natural gas pricing and effective cost control. The gross profit change for acquired aggregates business operations and the Cement business in 2015 is due to the full year of ownership of legacy TXI operations.

Corporate gross (loss) profit includes depreciation on capitalized interest and unallocated operational expenses excluded from the Corporation's evaluation of business segment performance. For 2016 and 2015, the amount includes the variance between the contractual rate and the spot rate for diesel fuel under the fixed-price agreement. For 2014, the amount includes the settlement of a sales tax audit.

Gross profit (loss) by reportable segment for the Aggregates business is as follows:

years ended December 31 (add 000)	2016	2015	2014
Aggregates Business:			
Mid-America Group	\$ 305,794	\$ 256,586	\$ 216,883
Southeast Group	57,108	34,197	10,653
West Group	344,581	254,946	155,678
Total Aggregates Business	707,483	545,729	383,214
Cement	120,100	103,473	52,469
Magnesia Specialties	89,477	78,732	84,594
Corporate	(8,094)	(6,167)	2,083
Total Consolidated Gross Profit	\$ 908,966	\$ 721,767	\$ 522,360

Gross margin (excluding freight and delivery revenues) by reportable segment is as follows:

years ended December 31	2016	2015	2014
Aggregates Business:			
Mid-America Group	32.4%	30.1%	28.1%
Southeast Group	18.8%	12.0%	4.2%
West Group	18.7%	16.6%	12.9%
Total Aggregates Business	22.8%	20.4%	17.2%
Cement	33.0%	22.7%	20.7%
Magnesia Specialties	37.6%	34.6%	35.8%
Total Consolidated	25.4%	22.1%	19.5%

Gross margin (excluding freight and delivery revenues) improvement for the Aggregates business reflects pricing strength in the aggregates and ready mixed concrete product lines and stronger demand in the ready mixed concrete business. (See section *Transportation Exposure* on pages 64 through 66.)

Magnesia Specialties business' 2016 gross margin (excluding freight and delivery revenues) expansion is attributable to increased sales and effective cost management. The 2015 gross margin (excluding freight and delivery revenues) was negatively affected by lower sales volumes which reduced operating leverage.

Selling, General and Administrative Expenses

SG&A expenses for 2016 were 6.9% of net sales, an increase of 20 basis points, and reflect higher performance-based incentive compensation costs partially offset by lower pension expense. In 2015, SG&A expenses increased 40 basis points over 2014, reflecting higher pension expense and the impact of net sales delayed by weather.

Acquisition-Related Expenses, Net

The Corporation incurred business development and acquisition integration costs (collectively "acquisition-related expenses, net") as part of its strategic growth plan. In 2015, these costs were principally TXI integration costs. In 2014, acquisition-related expenses, net, were related to the consummation of the TXI transaction and also included a nonrecurring \$42.7 million gain on a divestiture required by the Department of Justice as a result of the TXI acquisition.

Other Operating (Income) and Expenses, Net

Among other items, other operating income and expenses, net, include gains and losses on the sale of assets; gains and losses related to certain customer accounts receivable; rental, royalty and services income; accretion expense, depreciation expense; gains and losses related to asset retirement obligations; and research and development costs. These net amounts represented income of \$8.0 million in 2016, an expense of \$15.7 million in 2015 and income of \$4.6 million in 2014. The net expense for 2015 reflects the net impact on the sale of the California cement operations and the San Antonio asphalt operations.

Earnings from Operations

Consolidated earnings from operations were \$667.3 million, \$479.4 million and \$314.9 million in 2016, 2015 and 2014, respectively. Excluding the net impact from the sale of the California cement operations and the San Antonio asphalt operations, adjusted consolidated earnings from operations for 2015 were \$495.4 million. This is a \$126.7 million improvement over adjusted consolidated earnings from operations for 2014 of \$368.7 million, which excludes TXI acquisition-related expenses, net, and the impact of the one-time markup of acquired inventory.

Interest Expense

Interest expense of \$81.7 million in 2016 increased \$5.4 million over 2015 due to an increase in average debt outstanding, coupled with an increase in variable interest rates in 2016 compared with 2015. Interest expense of \$76.3 million in 2015 increased \$10.2 million over 2014, attributable to the assumed and refinanced \$700 million of TXI-related debt being outstanding for a full year in 2015 versus only six months in 2014.

Other Nonoperating (Income) and Expenses, Net

Other nonoperating income and expenses, net, are comprised generally of interest income, foreign currency transaction gains and losses, and net equity earnings from nonconsolidated investments. Consolidated other nonoperating income and expenses, net, was income of \$21.4 million, \$10.7 million and \$0.4 million in 2016, 2015 and 2014, respectively. The higher income in 2016 was due to the remeasurement of an interest held in a joint venture, gains on foreign currency transactions and increased earnings from nonconsolidated investments. The higher income in 2015 over 2014 was primarily due to increased earnings from nonconsolidated investments.

Taxes on Income

Variances in the estimated effective income tax rates, when compared with the federal corporate tax rate of 35%, are due primarily to the statutory depletion deduction for mineral reserves, the effect of state income taxes, the domestic production deduction, the tax effect of nondeductibility of goodwill related to divestitures of businesses and the impact of foreign income or losses for which no tax expense or benefit is recognized. Additionally, certain acquisition-related expenses, net, have limited deductibility for income tax purposes.

The permanent benefit associated with the statutory depletion deduction for mineral reserves is typically the significant driver of the estimated effective income tax rate. The statutory depletion deduction is calculated as a percentage of sales subject to certain limitations. Due to these limitations, changes in sales volumes and pretax earnings may not proportionately affect the statutory depletion deduction and the corresponding impact on the effective income tax rate on continuing operations. However, the impact of the depletion deduction on the estimated effective tax rate is inversely affected by increases or decreases in pretax earnings.

The Corporation's estimated effective income tax rate for the years ended December 31 are as follows:

2016	29.9%
2015	30.2%
2014	38.1%

The effective income tax rate for full-year 2014 was higher than the Corporation's historical rate as a result of the acquisition of TXI, including the limited deductibility of certain acquisition-related expenses, net, and the nondeductibility of goodwill written off as part of the required divestiture. These factors were partially offset by the income tax benefits resulting from the exercise of converted stock awards issued to former TXI personnel. Excluding the TXI transaction effects, the estimated effective income tax rate would have been 30%, in line with current rates.

Currently, the United States Congress is considering changes in the corporate tax code that, if enacted, could affect the Corporation's net earnings. While the current expectation is a reduction in corporate tax rates, which should favorably affect net earnings, the Corporation cannot be certain of the impact of the elimination of tax preferences, capital investment deductibility or border adjustments, among other considerations.

Net Earnings Attributable to Martin Marietta and Earnings Per Diluted Share

Net earnings attributable to Martin Marietta were \$425.4 million, or a record \$6.63 per diluted share, a 55% increase over 2015. In 2015, net earnings attributable to Martin Marietta were \$288.8 million, or \$4.29 per diluted share. Excluding the net impact from the sale of the California cement operations and the San Antonio asphalt operations, adjusted earnings per diluted share were \$4.50. For 2014, net earnings attributable to Martin Marietta were \$155.6 million, or \$2.71 per diluted share. Excluding the impact of acquisition-related expenses, net, and the increase in cost of sales for acquired inventory, adjusted earnings per diluted share were \$3.74.

BUSINESS ENVIRONMENT

The sections on *Business Environment* on pages 54 through 70, and the disclosures therein, provide a synopsis of the business environment trends and risks facing the Corporation. However, no single trend or risk stands alone. The relationship between trends and risks is dynamic, and the economic climate can exacerbate this relationship. This discussion should be read in this context.

Aggregates and Cement Business' Trends

The Aggregates and Cement businesses typically serve customers in construction aggregates-related markets. These businesses are strongly affected by activity within the construction marketplace, which is cyclical in nature. Consequently, the Corporation's profitability is sensitive to national, regional and local economic conditions and especially to cyclical swings in construction spending. The cyclical swings in construction spending are in turn affected by fluctuations in interest rates; access to capital markets; levels of public-sector infrastructure funding; and demographic, geographic and population dynamics. Per the U.S. Census Bureau, total construction spending increased 5% in 2016 compared with 2015.

The heavy construction business, including the production of aggregates and cement products, is conducted outdoors. Therefore, erratic weather patterns, precipitation and other weather-related conditions, including snowstorms, droughts, flooding and hurricanes, can significantly affect production schedules, shipments, costs, efficiencies and profitability of the Aggregates and Cement businesses. Generally, the financial results for the first and fourth quarters are significantly lower than the second and third quarters due to winter weather.

End-Use Trends

- According to the U.S. Geological Survey, for the nine-months ended September 30, 2016, the latest available data, estimated construction aggregates consumption increased 5% and estimated cement consumption increased 3% compared with the nine-months ended September 30, 2015
- Spending statistics, from 2015 to 2016, according to U.S. Census Bureau:
 - Total value of construction put in place increased 5%
 - Public-works construction spending decreased 1%
 - Private nonresidential construction market spending increased 8%
 - Private residential construction market spending increased 5%

The Aggregates and Cement businesses sell products principally to contractors in connection with highway and other public infrastructure projects as well as nonresidential and residential development. While construction spending

in the public and private market sectors is affected by economic cycles, the historic level of spending on public infrastructure projects has been comparatively more stable as governmental appropriations and expenditures are typically less interest rate-sensitive than private-sector spending. Obligation of federal funds is a leading indicator of highway construction activity in the United States. Before a state or local department of transportation can solicit bids on an eligible construction project, it enters into an agreement with the Federal Highway Administration to obligate the federal government to pay its share of the project cost. Federal obligations are subject to annual funding appropriations by Congress. Management believes public-works projects have historically accounted for approximately 50% of the total annual aggregates and cement consumption in the United States. Additionally, management believes exposure to fluctuations in nonresidential and residential, or private-sector, construction spending is lessened by the business' mix of public sector-related shipments. However, due to the significant (and historically unusual) length of time without a multi-year federal highway bill prior to the passage of the FAST Act, over the last several years private construction has become a larger percentage of overall construction investment. Consistent with this trend, the infrastructure market accounted for approximately 39% of the Corporation's aggregates product line shipments in 2016, consistent with 2015 but lower than the most recent five-year average of 44%.

The nonresidential construction market accounted for approximately 32% of the Corporation's aggregates product line shipments in 2016. According to the U.S. Census Bureau, spending for the private nonresidential construction market increased in 2016 compared with 2015. Historically, half of the Corporation's nonresidential construction shipments have been used for office and retail projects, while the remainder has been used for heavy industrial and capacity-related projects, including energy-sector projects, namely development of shale-based natural gas fields. However, low oil prices in the latter part of 2015 and throughout 2016 has suppressed shale exploration activity. In 2016, the Corporation shipped approximately 1.5 million tons to the energy-sector compared with approximately 3.6 million tons in 2015 and 7.5 million tons in 2014.



The residential construction market accounted for approximately 21 % of the Corporation's aggregates product line shipments in 2016. The Corporation's exposure to residential construction is typically split evenly between aggregates used in the construction of subdivisions (including roads, sidewalks, and storm and sewage drainage) and aggregates used in new home construction. Therefore, the timing of new subdivision starts, as well as new home starts, equally affects residential volumes. Private residential construction spending increased 5% in 2016 compared with 2015, according to the U.S. Census Bureau.

The remaining 8% of the Corporation's 2016 aggregates product line shipments was to the ChemRock and Rail construction market, which includes ballast and agricultural limestone. Ballast shipments declined in 2016 due to lower railroad activity, correlating with lower energy-related rail shipments. Drier weather and favorable operating conditions led to increased shipments of agricultural limestone in 2016 over 2015. Weather conditions in 2015 were abnormally wet, limiting field applications and influencing deferred stockpiling.

Pricing Trends

Pricing on construction projects is generally based on terms committing to the availability of specified products at an agreed-upon price during a stated period. While residential

and nonresidential construction jobs usually are completed within one year, infrastructure contracts can require several years to complete. Therefore, changes in prices can have a lag time before taking effect while the Corporation sells aggregates products under existing price agreements. Pricing escalators included in multi-year infrastructure contracts somewhat mitigate this effect. However, during periods of sharp or rapid increases in production costs, multi-year infrastructure contract pricing may provide only nominal pricing growth. The Corporation also implements mid-year price increases where appropriate.

In 2016, the average selling price for the aggregates product line increased 7.3%, in line with management's expectations. Opportunities to increase pricing will occur on a market-by-market basis. Management believes 2017 aggregates product line pricing growth will exceed the Corporation's 20-year annual average, 4.2% and correlate, after consideration of a 6-to-12-month lag factor, with changes in demand. Pricing is determined locally and is affected by supply and demand characteristics of the local market.

Aggregates and Cement Business' Risks

Federal and State Highway Transportation Funding

Public-sector construction projects are funded through a combination of federal, state and local sources. The federal highway bill provides annual funding for public-sector highway construction projects and includes spending authorizations, which represent the maximum financial obligation that will result from the immediate or future outlays of federal funds for highway and transit programs. The federal government's surface transportation programs are financed mostly through the receipts of highway user taxes placed in the Highway Trust Fund, which is divided into the Highway Account and the Mass Transit Account. Revenues credited to the Highway Trust Fund are primarily derived from a federal

gas tax, a federal tax on certain other motor fuels and interest on the accounts' accumulated balances. Of the currently imposed federal gas tax of \$0.184 per gallon, which has been static since 1993, \$0.15 is allocated to the Highway Account of the Highway Trust Fund.

Federal highway laws require Congress to annually appropriate funding levels for highways and other programs. Once the annual appropriation is passed, federal funds are distributed to each state based on formulas (apportionments) or other procedures (allocations). Apportioned and allocated funds generally must be spent on specific programs as outlined in the federal legislation. Most federal funds are available for four years. Once the federal government approves a state project, funds are committed and considered spent regardless of when the cash is actually spent by the state and reimbursed by the federal government. According to the Federal Highway Administration, funds are generally spent by the state over a period of years, with 27% in the year of funding authorization, 41% in the succeeding year, 16% in the third year and the remaining 16% in the fourth year and beyond.

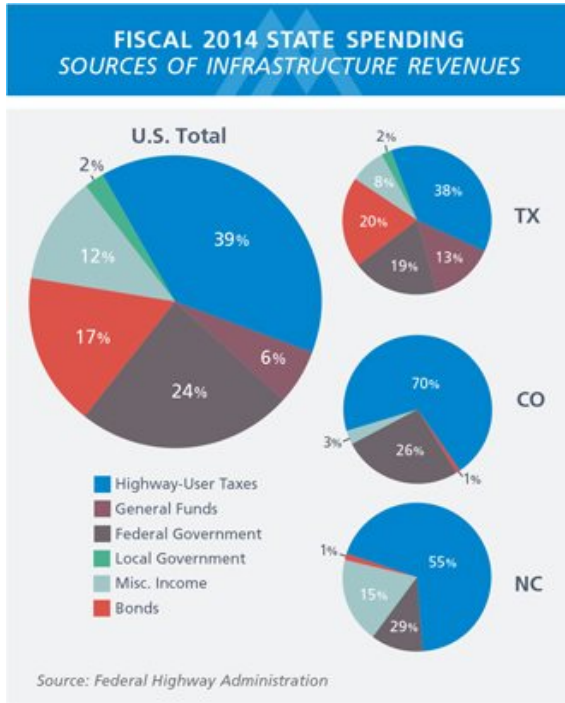
Following 36 shorter-term extensions since the expiration of predecessor legislation, *Moving Ahead for Progress in the 21st Century* ("MAP-21"), a five-year federal highway bill, the FAST Act, was signed into law in December 2015. The FAST Act reauthorizes federal highway and public transportation programs and stabilizes the Highway Trust Fund. \$207.4 billion of the FAST Act funding will be apportioned to the states, with a 5.1% increase over actual fiscal year 2015 apportionments in 2016 and then inflationary increases in subsequent years. Meaningful impact from the FAST Act is expected beginning in 2017.

The FAST Act retains the programs supported under MAP-21, but with some changes. Specifically, *Transportation Infrastructure Finance and Innovation Act* ("TIFIA"), a U.S. Department of Transportation alternative funding mechanism, which under MAP-21 provided three types of federal credit assistance for nationally or regionally significant surface transportation projects, now allows more diversification of projects. TIFIA is designed to fill market gaps and leverage substantial private co-investment by providing projects with supplemental or subordinate debt which is not subject to national debt ceiling challenges or sequestration. Since inception, TIFIA has provided more than \$25 billion of credit assistance to over 50 projects representing

over \$90 billion in infrastructure investment. Under the FAST Act, annual TIFIA funding decreases and ranges from \$275 million to \$300 million, but no longer requires the 20% matching funds from state departments of transportation. Consequently, states can advance construction projects immediately with potentially no upfront outlay of state department of transportation dollars. TIFIA requires projects to have a revenue source to pay back the credit assistance within a 30-to-40 year period. Moreover, TIFIA funds may represent up to 49% of total eligible project costs for a TIFIA-secured loan and 33% for a TIFIA standby line of credit. Therefore, the TIFIA program has the ability to significantly leverage construction dollars. Each dollar of federal funds can provide up to \$10 in TIFIA credit assistance and support up to \$30 in transportation infrastructure investment. Private investment in transportation projects funded through TIFIA is particularly attractive, in part due to the subordination of public investment to private. Management believes TIFIA could provide a substantial boost for state department of transportation construction programs well above what is currently budgeted. As of January 2017, TIFIA-funded projects for the Corporation's top five sales-generating states exceeded \$22 billion.

Excluding TIFIA-approved projects, states are required to match funds at a predetermined rate in order to receive federal funds for highways. Matching levels vary depending on the type of project. If a state is unable to match its allocated federal funds, funding is forfeited and reallocated to states providing the appropriate matching funds. Although a significant portion of state highway construction programs are financed from highway user fees, significant increases in federal infrastructure funding typically require state governments to increase highway user fees to match federal spending. While states rarely forfeit federal highway funds, the possibility of forfeiture increases when states face declining tax revenues and struggle to balance budgets.

Given that most states are required to balance their budgets, reductions in revenues generally require a reduction in states' expenditures. However, the impact of state revenue reductions on highway spending will vary depending on whether the spending comes from dedicated revenue sources, such as highway user fees, or whether portions are funded with general funds. Based on national averages, user taxes represent the largest component of highway revenues, averaging 39% in fiscal year 2014, the latest available statistic. The use of general funds as a percentage of each state's



highway revenues varies, with a national average of 6% in fiscal year 2014, the latest available statistic. Therefore, state budget spending cuts typically only affect a small percentage of a state's highway spending.

States continue to play an expanding role in infrastructure funding. In addition to federal appropriations, each state funds its infrastructure spending from specifically allocated amounts collected from various user taxes, typically gasoline taxes and vehicle fees. Over the past 24 months, states have taken on a significantly larger role in funding infrastructure investment, including initiating special-purpose taxes and raising gas taxes. Management believes that innovative financing at the state level, such as bond issuances, toll roads and tax initiatives, will grow at a faster rate than federal funding. State spending on infrastructure generally leads to increased growth opportunities for the Corporation. The level of state public-works spending is varied across the nation and dependent upon individual state economies. The degree to which the Corporation could be affected by a reduction or slowdown in infrastructure spending varies by state. The state economies of the Aggregates business' five largest sales-generating states may disproportionately affect the Corporation's financial performance.

The need for surface transportation improvements significantly outpaces the amount of available funding. A large number of roads, highways and bridges built following the establishment of the Interstate Highway System in 1956 are now in need of major repair or reconstruction. According to The Road Information Program ("TRIP"), a national transportation research group, vehicle travel on United States highways increased 38% from 1990 to 2012, while new lane road mileage increased only 4% over the same period. TRIP also reports that 14% of the nation's major roads are in poor condition and 25% of the nation's bridges are structurally deficient or functionally obsolete. Currently, the Federal Highway Administration estimates that \$170 billion is needed in annual capital investment through 2028 to significantly improve the current conditions and performance of the nation's highways. During fiscal 2011, the latest data available from the Office of Highway Policy Information, \$93.9 billion was spent for surface transportation projects by federal, state and local governments. President Trump has proposed additional investment over the next decade to rebuild the country's infrastructure. Any such measures will require Congressional approval.

Transportation investments generally boost the national economy by enhancing mobility and access and by creating jobs, which is a priority of many of the government's economic plans. According to the Federal Highway Administration, every \$1 billion in federal highway investment creates approximately 28,000 jobs. The number of jobs created is dependent on the nature and aggregates intensity of the projects. Approximately half of the Aggregates business' net sales to the infrastructure market come from federal funding authorizations, including matching funds from the states. For each dollar spent on road, highway and bridge improvements, the Federal Highway Administration estimates an average benefit of \$5.20 is recognized in the form of reduced vehicle maintenance costs, reduced delays, reduced fuel consumption, improved safety, reduced road and bridge maintenance costs and reduced emissions as a result of improved traffic flow.

Other Public-Sector Construction Exposure

In addition to highways and bridges, transportation infrastructure includes aviation, mass transit, and ports and waterways. Public-sector construction related to transportation infrastructure can be aggregates intensive.

According to the *American Road and Transportation Builders Association* ("ARTBA"), airport construction spending was \$13.1 billion during 2016 and is forecasted to be relatively flat in 2017. Spending on airport terminal and related work was \$8.3 billion and runway work was \$4.8 billion in 2016.

Construction spending for mass transit projects, which include subways, light rail and railroads, was \$19.3 billion in 2016, according to ARTBA, and is expected to increase 5% in 2017. Railroad construction continues to benefit from economic growth, which generate needs for additional maintenance and improvements. According to ARTBA, subway and light rail work is expected to benefit slightly from the FAST Act.

Port and waterway construction spending was \$2.1 billion in 2016 and is forecasted to be flat in 2017.

Top Five Sales-Generating States

The Aggregates business' top five sales-generating states, namely Texas, Colorado, North Carolina, Iowa and Georgia, together accounted for 73% of its 2016 net sales by state of destination. The top ten sales-generating states, which also include South Carolina, Florida, Indiana, Louisiana and Nebraska, together accounted for 87% of the Aggregates business' 2016 net sales by state of destination.

Texas is a vibrant market supported by employment gains and a growing population, combined with a healthy state Department of Transportation ("DOT") program. Notably, Texas is the third-ranked state for job growth while nationally Dallas-Fort Worth is the second-ranked metro area in the country, fundamentals that should further enhance construction investment. Additionally, according to a Census Bureau report issued May 2016, five of the nation's top eight cities for population growth, namely Austin, Houston, San Antonio, Dallas and Fort Worth, were in Texas. Further, Texas was home

to five of the top eleven fastest-growing cities. Overall, the population in Texas grew 10.4% from 2010 to 2016, adding 2.6 million residents. Population growth in Texas supports aggregates consumption where an average of eight to 12 tons per capita is consumed annually. The Texas DOT continues to operate with a strong budget and let \$7.5 billion of projects in fiscal 2016 and estimates letting \$7.2 billion in fiscal 2017. In fact, Texas DOT has committed to letting over \$65 billion of projects over the next ten years. Funding for highway construction comes from dedicated sources, including Proposition 1 and 7, as opposed to the use of general funds. Proposition 7 is estimated to provide an additional \$2.0 billion of annual funding for non-toll roads beginning in fiscal 2018 and is expected to increase after 2019. On November 8, 2016, voters approved \$990 million of additional statewide transportation funding, including a \$720 million transportation bond in Austin. Although lower oil prices have negatively affected aggregates shipments supporting shale exploration activity, growth in other sectors has offset the decline. Texas ranked 6th in single family permit growth for the trailing-twelve months ended December



growth for 2016. Nonresidential construction for the state declined 13% compared to 2015; however, Dallas and Austin were ranked 8th and 17th, respectively, nationally among metropolitan areas for nonresidential construction in 2016.

The Colorado economy has a diverse economic base and remains strong, with job growth in the top twenty nationally. The unemployment rate has declined to 3.0% at December 31, 2016, its lowest since 2007. In the Census Bureau's population estimate report, Colorado has been in the top ten nationally in population growth for the past five years, boasting a 9.7% increase of residents from 2010 to 2016. Colorado's residential market continues to expand as developers struggle to keep pace with demand. In fact, the state ranked in the top ten nationally for growth in residential starts. The nonresidential market remains positive, leading Colorado to be ranked in the top ten states in the country. The Colorado DOT budget is expected to exceed \$1.4 billion in 2017, with continued support from the *Responsible Acceleration of Maintenance and Partnerships*, or RAMP, program through fiscal 2018. Further, an additional \$250 million of flood mitigation funds were awarded late in 2016 for reconstruction efforts from the 2013 historic flooding.

The North Carolina economy, driven by population and job growth, looks positive for 2017. Nationally, the state ranked 12th in population change from 2010 to 2016, growing approximately 6%. The United States Census Bureau projects the state's population to increase 2 million by 2030, making it the seventh most populated state. Increasing jobs at 2% for the trailing-twelve months ended December 2016, North Carolina will continue to see jobs added with businesses looking to expand operations in the state. Pepsi Bottling Ventures, Lending Tree, Mountaire Farms and Lotus Bakeries are a few of the businesses that have collectively committed over \$200 million of investment in operations in North Carolina. The infrastructure market has shown solid growth in awards, driven in part by the TIFIA-backed I-77 high-occupancy toll ("HOT") lanes project north of Charlotte. The 26-mile expansion of I-77 is a \$655 million, multi-year project expected to be complete in the latter part of 2018. In the November 2016 elections, North Carolina voters approved all transportation referendums, totaling \$1.2 billion of additional funding.

The economy of Iowa, one of the Corporation's most stable markets over the past several years, is highly dependent on agriculture and related manufacturing industries and continues to show signs of steady expansion. Iowa is the largest corn and pork-producing state in the nation, and the Corporation's agricultural lime volumes are dependent on, among other things, weather, demand for agricultural commodities, including corn and soybeans, commodity prices, farm and land values as well as funding from the *Agricultural Act of 2014*, the five-year domestic farm bill signed into law on February 7, 2014. Ranking sixth in the nation for lowest cost of doing business, the state is attractive for starting and expanding businesses due to enticing tax incentives offered by the state. Coupled with that fact, the state is expected to be fossil fuel independent by 2050, making primarily wind-based energy production cost-

ESTIMATED POPULATION			
Top 10 Sales-Generating States of Aggregates Business	Percent Change in Population 2010 to 2016	Population Change Rank	Projected Population Rank 2016*
Texas	10.4%	2	2
Colorado	9.7%	4	21
North Carolina	6.1%	12	9
Iowa	2.8%	29	31
Georgia	6.1%	13	8
South Carolina	7.0%	10	23
Florida	9.4%	5	3
Indiana	2.2%	31	17
Louisiana	3.0%	28	25
Nebraska	4.2%	22	38

Source: U.S. Census Bureau, Population Estimates Division
 *Based on 2000 Census

effective, another driver of economic expansion. With that said, the nonresidential construction market is expected to benefit as expansion continues in the state for companies like Google, Microsoft and Facebook. Additionally, Alliant Energy Corp., Blue Bunny and MidAmerican Energy have each announced plans to expand or continue to expand facilities in Iowa. The state's seasonally-adjusted unemployment rate of 3.6% remains one of the lowest in the country. The state DOT budget is financed with federal funds and dedicated highway-user tax revenues; no general funds are

used. State funding will benefit from a \$0.10 increase in the gas tax, approved in 2015, which is expected to provide \$215 million annually. Since taking effect in March 2015, the \$0.10 tax increase has generated \$335 million through September 2016. The Iowa Transportation Commission's Five-Year Highway Program forecasts \$3.2 billion to be available for highway right-of-way and construction investments for the period 2016 through 2020. Of this, more than \$1.3 billion is targeted for modernizing Iowa's existing highway system and enhancing highway safety.

Georgia continues to recover from the Great Recession as evidenced by remaining in the top ten states for job growth and reporting 6% population growth from 2010 to 2016. Job growth is likely to continue as corporations, including UPS, The Weather Company, Athenahealth and Linde Group, continue to expand in Georgia. Mercedes-Benz USA released plans for their new \$100 million headquarters in Atlanta. The project is scheduled to be built on a 12-acre tract near Sandy Springs and is expected to be completed in the first quarter of 2018. The state ranks in the top five in residential construction starts, with notable strength in the Atlanta market, ranking first on a metropolitan level in the United States. The infrastructure construction market is expanding and will significantly benefit from the passage of a gas tax increase and other funding mechanisms that will add approximately \$1 billion, or essentially double, the state's annual construction budget. Further, Georgia voters approved five local sales tax increases to provide \$4 billion for road and transit projects, spanning a five- to 40-year period. State highway funding sources include motor fuel taxes, special fuel taxes, state bonds and state gas taxes. Additionally, the Transportation Special-Purpose Local-Option Sales Tax ("T-SPLOST") program is starting to provide benefit in the southern part of Georgia. In January 2016, Governor Nathan Deal announced a comprehensive infrastructure maintenance plan, which includes a \$2.2 billion, 18-month project list, and a longer term 10-year plan, representing more than \$10 billion

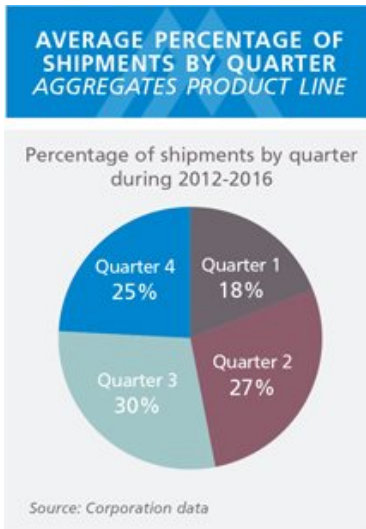
in investment. Some elements of the Governor's plan include the addition of toll lanes along the I-285 loop in Atlanta, interchange upgrades for I-20 and I-285 and additional capacity of metro sections of I-75, I-85 and GA 400. The state's port authority received approval for a 100-acre expansion project of its auto terminal at Port Brunswick.

Weather Impacts

Erratic weather patterns, seasonal changes and other weather-related conditions can significantly affect the construction aggregates industry. Production and shipment levels for aggregates, cement, asphalt, ready mixed concrete and road paving materials correlate with general construction activity, most of which occurs in the spring, summer and fall. Thus, production and shipment levels vary by quarter. Operations concentrated in the northern and midwestern United States generally experience more severe winter weather conditions than operations in the Southeast and Southwest.

Excessive rainfall, and conversely excessive drought, can also jeopardize production, shipments and profitability in all markets served by the Corporation. The last two years have brought an unprecedented amount of precipitation to Texas and other areas of the United States. In fact, not only did 2015 set a new rainfall record for Texas, the 24-month period ending September 2016 set a new two-year record for the state, with an average annual rainfall of 75 inches. Parts of Texas were significantly higher than average, including Dallas, which experienced approximately 100 inches of rainfall during this period.

The Corporation's operations in the southeastern and Gulf Coast regions of the United States and the Bahamas are at risk for hurricane activity, most notably in August, September and October. In October 2016, rainfall along the eastern seaboard of the United States from Hurricane Matthew, a category-5 hurricane, approximated 13.6 trillion gallons. Additionally, Hurricane Matthew was the first major hurricane on record to make landfall in the Bahamas.



Cost Structure

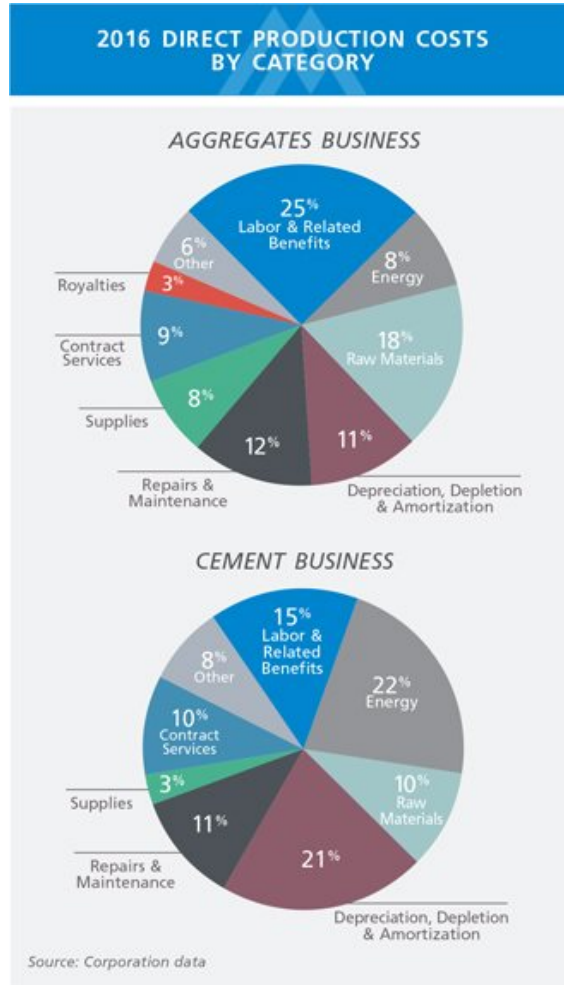
- Top three cost categories represent 55% of the Aggregates business' total direct production costs
- Top three cost categories for the Cement business represent 58% of total direct production costs
- Health and welfare costs increased approximately 4% per year over past five years compared with national average of 6% over same period; Corporation's costs expected to increase 4% to 5% in 2017
- Pension expense decreased from \$37.3 million in 2015 to \$32.8 million in 2016; pension costs expected to approximate \$37.0 million in 2017 (2016 and 2015 amounts exclude nonrecurring termination benefits related to the acquisition of TXI)

Total direct production costs for the Aggregates business are components of cost of sales incurred at the quarries, distribution yards, and asphalt and ready mixed concrete plants. These costs exclude resale materials, freight expenses to transport materials from a producing quarry to a distribution yard and production overhead.

Generally, the top seven categories of total direct production costs for the Aggregates business are (1) labor and related benefits; (2) energy; (3) raw materials; (4) depreciation, depletion and amortization; (5) repairs and maintenance; (6) supplies; and (7) contract services. In 2016, these categories represented 91% of the Aggregates business' total direct production costs.

Fixed costs are expenses that do not vary based on production or sales volume. Management estimates that, under normal operating capacity, 40% of the Aggregates business' cost of sales is fixed, another 30% is semi-fixed and 30% is variable in nature. Accordingly, the Corporation's operating leverage can be substantial. Variable costs are expenses that fluctuate with the level of production volume. Production is the key driver in determining the levels of variable costs, as it affects the number of hourly employees and related labor hours. Further, diesel, supplies, repairs and freight costs also increase in connection with higher production volumes.

Generally, when the Corporation invests capital to replace facilities and equipment, increased capacity and productivity, along with reduced repair costs, can offset increased fixed depreciation costs. However, when aggregates demand weakens, the



increased productivity and related efficiencies may not be fully realized, resulting in under absorption of fixed costs. Further, the Aggregates business continues to operate at a level significantly below capacity, thereby, restricting the Corporation's ability to capitalize \$71.3 million and \$75.1 million of costs at December 31, 2016 and 2015, respectively, which could have been inventoried if operating at capacity.

Diesel fuel, which averaged \$1.96 per gallon in 2016 and \$2.05 per gallon in 2015, represents the single largest component of energy costs for the Aggregates business. Changes in energy costs also affect the prices that the Corporation pays for supplies, including explosives, conveyor belting and tires. Further, the Corporation's contracts of affreightment for shipping aggregates on its rail and waterborne distribution

network typically include provisions for escalations or reductions in the amounts paid by the Corporation if the price of fuel moves outside a contractual range.

The Cement business is a capital-intensive operation with high fixed costs to run plants that operate all day, every day, with the exception of maintenance shut downs. The top cost in cement manufacturing is energy, which represented 22% of total production costs in 2016 and 26% in 2015. Depreciation and labor followed with 21% and 15%, respectively, of total production costs.

The Corporation also consumes natural gas, coal and petroleum coke in the Magnesia Specialties manufacturing processes. For 2016, the Corporation's average cost per MCF (thousand cubic feet) for natural gas decreased 25% from 2015. The Corporation has fixed price agreements for 100% of its 2017 coal needs, approximately 25% of its 2017 natural gas needs and 50% of its 2017 petroleum coke needs.



The Corporation's aggregates-related downstream businesses requires the use of products as raw materials. Liquid asphalt and cement are key raw materials in the production of hot mix asphalt and ready mixed concrete, respectively. Fluctuations in prices for these raw materials directly affect the Corporation's operating results.

Wage inflation and increases in labor costs may be somewhat mitigated by enhanced productivity in an expanding economy. Further, workforce reductions resulting from plant automation and mobile fleet right-sizing have helped the Corporation control rising labor costs. During economic downturns, the Corporation reviews its operations and, where practical, temporarily idles certain sites. The Corporation is able to serve these markets with other open facilities that are in close proximity. Further, in certain markets, management can create production "super crews" that work at various locations within a district. For example,

within a market, a crew may work three days per week at one quarry and the other two workdays at another quarry within that market. This has allowed the Corporation to reduce headcount in periods of lower demand, as the number of fulltime employees has been reduced or eliminated at locations that are not operating at full capacity. The Corporation added 573, 37 and 2,224 employees during 2016, 2015 and 2014, respectively, as a result of acquisitions.

Rising health care costs have affected total labor costs in recent years and are expected to continue to increase. Over the past five years, national health care costs have increased 6% on average. The Corporation has experienced health care cost increases averaging approximately 4% per year over the same period, driven in large part by favorable claims experience and payroll contribution changes made to its health care plans. In 2016, the Corporation's health and welfare costs per employee were essentially flat compared with the prior year due to adverse claims and a significant claim payment lag in 2015 that did not repeat in 2016. For 2017, health and welfare costs are expected to increase 4% to 5% (after plan design changes effective in 2017), slightly below general marketplace trends. While potential changes to the Affordable Care Act may affect the Corporation's cost in the future, any impact cannot be predicted at this time.

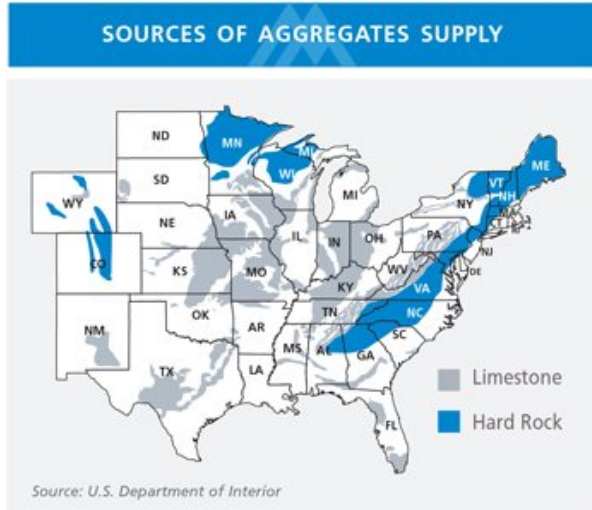
A lower discount rate is expected to increase the Corporation's pension expense from \$32.8 million, excluding TXI-related nonrecurring benefits, in 2016 to \$37.0 million in 2017 (see section *Critical Accounting Policies and Estimates – Pension Expense – Selection of Assumptions* on pages 74 through 76).

The impact of current inflation on the Corporation's businesses has been less significant due to moderate inflation rates. Historically, the Corporation has achieved real pricing growth in periods of inflation based on its ability to increase its selling prices in a normal economic environment.

Consolidated SG&A costs increased \$29.8 million in 2016 compared with 2015. The increase reflects an increase in performance-based incentive compensation expense, which is directly tied to individual and company performance during the year. As a percentage of net sales, SG&A expenses increased 20 basis points to 6.9%.

Shortfalls in federal, state and local revenues may result in increases in income taxes and other taxes. Federal and state governments may also increase tax rates or eliminate deductions in response to the federal deficit. The Corporation derives a significant tax benefit from the federal depletion deduction (see section *Critical Accounting Policies and Estimates – Estimated Effective Income Tax Rate* on pages 76 through 78).

Local crushed stone supplies must be supplemented, or in many cases wholly supplied, from inland and offshore quarries in the coastal regions of the southeastern and southwestern United States. Further, certain interior United States markets may experience limited resources of construction material resulting from increasingly restrictive zoning and permitting laws and regulations. The Corporation's strategic focus includes expanding inland and offshore capacity and acquiring distribution yards and port locations to offload transported material. Accordingly, aggregates shipments are moved by rail or water through the Corporation's long-haul distribution network. In 1994, the Corporation had seven distribution yards. At December 31, 2016, the Corporation had 71 distribution yards. The Corporation's rail network primarily serves its Texas, Florida and Gulf Coast markets. The Corporation's Bahamas and Nova Scotia locations transport materials via oceangoing ships. The Corporation is currently focusing a portion of its capital spending program on key distribution yards in the southeastern United States.



There is a risk of long-lived asset impairment at temporarily-idled locations. The timing of increased demand will determine when these locations are reopened. During the time that locations are temporarily idled, the locations' plant and equipment continue to be depreciated. When appropriate, mobile equipment is transferred to and used at an open location. As the Corporation continues to have long-term access to the supply of aggregates reserves and useful lives of equipment are extended, these locations are not considered to be impaired while temporarily idled. When temporarily-idled locations are reopened, it is not uncommon for repair costs to temporarily increase.

Transportation Exposure

The U.S. Department of the Interior's geological map of the United States shows the possible sources of indigenous surface rock and illustrates its limited supply in the coastal areas of the United States from Virginia to Texas.

As the Corporation moves aggregates by rail and water, internal freight costs reduce profit margins when compared with aggregates moved by truck. Freight costs for aggregates products often equal or exceed the selling price of the underlying aggregates products. The Corporation administers freight costs principally in three ways:

- Option 1:** The customer supplies transportation.
- Option 2:** The Corporation directly ships aggregates products from a production location to a customer by arranging for a third-party carrier to deliver aggregates and then charging the freight costs to the customer. These freight and delivery revenues and costs are separately presented in the consolidated

statements of earnings. Such revenues and costs for the Aggregates business were \$211.6 million, \$232.7 million and \$246.1 million in 2016, 2015 and 2014, respectively, and account for a substantial majority of all such costs.

Option 3: The Corporation transports aggregates, either by rail or water, from a production location to a distribution yard at which the selling price includes the associated internal freight cost. These freight costs are included in the Aggregates business' cost of sales and were \$231.9 million, \$208.9 million and \$185.2 million for 2016, 2015 and 2014, respectively. Transportation costs from the distribution yard to the customer are accounted for as described above in options 1 or 2, as applicable.

Further, the long-haul transportation network can diversify market risk for locations that engage in long-haul transportation of their aggregates products. Many locations serve both a local market and transport products via rail and/or water to be sold in other markets. The risk of a downturn in one market may be somewhat mitigated by other markets served by the location.

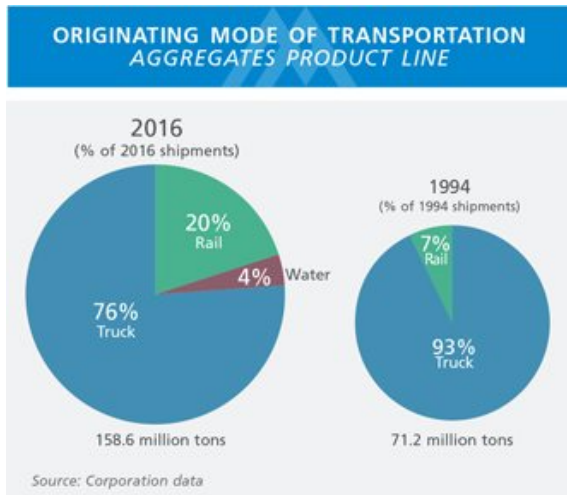
In 1994, 93% of the Corporation's aggregates shipments were moved by truck and the remainder by rail. In contrast, the originating mode of transportation for the Corporation's

aggregates product line shipments in 2016 was 76% by truck, 20% by rail and 4% by water. Shipments for cement were predominantly by truck.

The Corporation's increased dependence on rail shipments has made it more vulnerable to railroad performance issues, including track congestion, crew and power availability, the effects of adverse weather conditions and the ability to renegotiate favorable railroad shipping contracts. Further, in response to these issues, rail transportation providers have focused on increasing the number of cars per unit train under transportation contracts and are generally requiring customers, through the freight rate structure, to accommodate larger unit train movements. A unit train is a freight train moving large tonnages of a single bulk product between two points without intermediate yarding and switching.

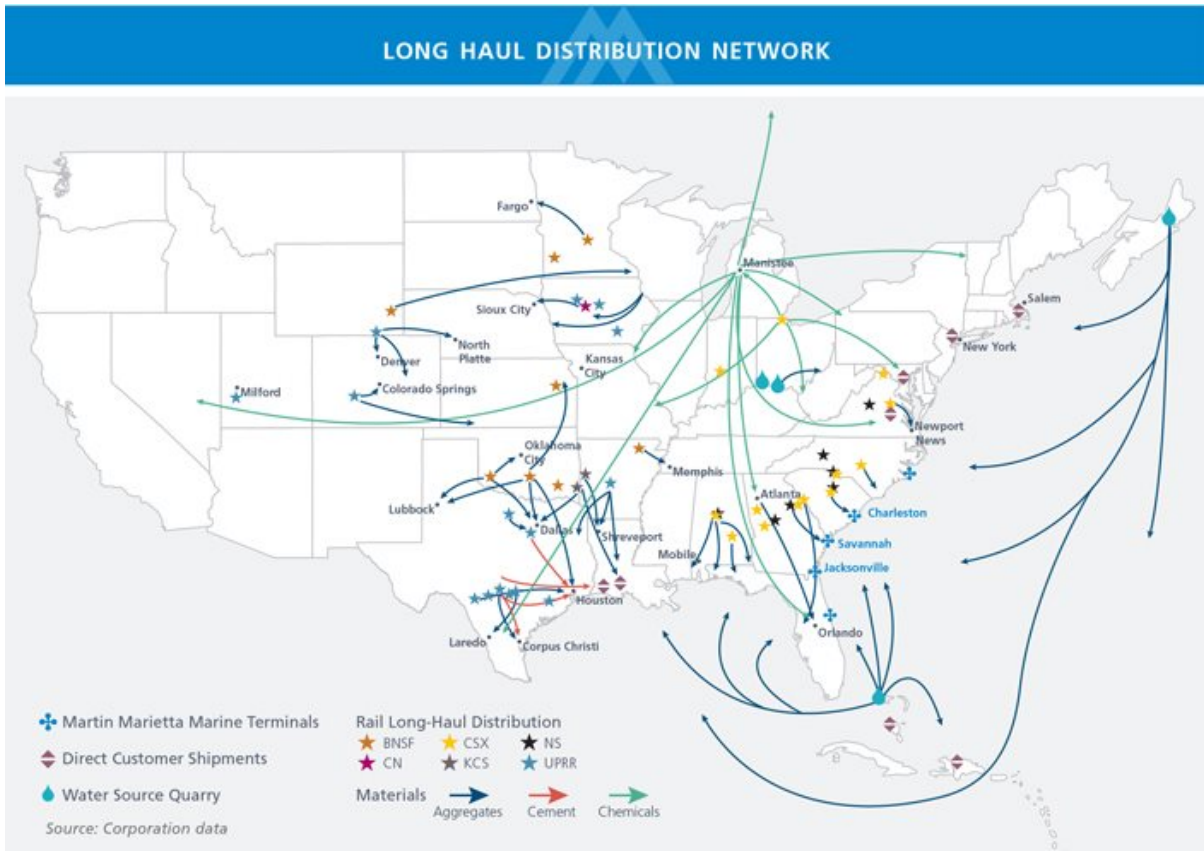
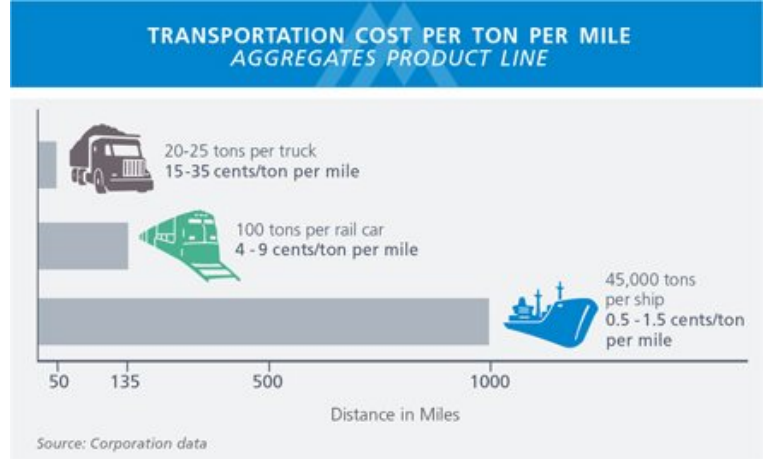
Generally, the Corporation does not buy railcars or ships, but instead supports its long-haul distribution network with short- and long-term leases and contracts of affreightment. However, the limited availability of water and rail transportation providers, coupled with limited distribution sites, can adversely affect lease rates for such services and ultimately the freight rate.

The waterborne distribution network increases the Corporation's exposure to certain risks, including, among other items, meeting minimum tonnage requirements of shipping contracts, demurrage costs, fuel costs, ship availability and weather disruptions. The Corporation's waterborne transportation is predominately via oceangoing vessels. The Corporation's average shipping distances from its Bahamas and Nova Scotia locations are 600 miles and 1,200 miles, respectively. Due to the majority of the shipments going to Florida, the weighted-average shipping distances are approximately 30% less than these averages. The Corporation has long-term agreements providing dedicated shipping capacity from its Bahamas and Nova Scotia operations to its coastal ports. These contracts of affreightment are take-or-pay contracts with minimum and maximum shipping requirements. If the Corporation fails to ship the annual minimum tonnages under the agreement, it is still obligated to pay the shipping company the contractually-stated minimum amount for that year. The Corporation incurred \$1.1 million of these freight costs in 2016; a charge is possible in 2017 if shipment volumes



do not meet the contractually-stated minimums. The Corporation's contracts of affreightment have varying expiration dates ranging from 2017 to 2027 and generally contain renewal options. However, there can be no assurance that such contracts can be renewed upon expiration or that terms will continue without significant increases.

Management expects the multiple transportation modes that have been developed with various rail carriers and deep-water ships will provide the Corporation with the flexibility to effectively serve customers in the Southwest and Southeast coastal markets.



Internal Expansion and Integration of Acquisitions

The Corporation's capital expansion, acquisition and greensite programs are designed to take advantage of construction market growth through investment in both permanent and portable facilities at the Corporation's operations. Over an economic cycle, the Corporation will typically invest, on average, organic capital at an annual level that approximates depreciation expense. At mid-cycle and through cyclical peaks, organic capital investment typically exceeds depreciation expense, as the Corporation supports current capacity needs and invests for future capacity growth. Conversely, at a cyclical trough, the Corporation can reduce levels of capital investment. Regardless of cycle, the Corporation sets a priority of investing capital to ensure safe, environmentally-sound and efficient operations and to provide the highest quality of customer service and establish a foundation for future growth.

In the first quarter of 2016, the Corporation acquired the outstanding stock of Rocky Mountain Materials and Asphalt, Inc. and Rocky Mountain Premix, Inc. The acquisition included four aggregates plants, two asphalt plants and two ready mixed concrete operations, and provides more than 500 million tons of mineral reserves and expands the Corporation's presence along the Front Range of the Rocky Mountains, home to 80% of Colorado's population.

During the third quarter 2016, the Corporation acquired the remaining interest in Ratliff Ready-Mix, L.P. ("Ratliff"), which operates ready mixed concrete plants in central Texas. Prior to the acquisition, the Corporation owned a 40% interest in Ratliff. The acquisition of Ratliff enhanced the vertical integration provided by the Cement business.

The Corporation also acquires contiguous property around existing quarry locations. This property can serve as buffer property or additional mineral reserve capacity, assuming regulatory hurdles can be cleared and the underlying geology supports economical aggregates mining. In either instance, the acquisition of additional property around an existing quarry allows the expansion of the quarry footprint and extension of quarry life. Some locations having limited reserves may be unable to expand.

A long-term capital focus for the Corporation, primarily in the midwestern United States due to the nature of its indigenous aggregates supply, is underground limestone aggregates mines. The Corporation is the largest operator of underground aggregates mines in the United States and operates 14 active underground mines in the Mid-America Group. Production costs are generally higher at underground mines than surface quarries since the method of the aggregates recovery and access to the reserves result in higher development, explosives and depreciation costs. However, these locations often possess transportation advantages that can lead to value-added, higher average selling prices than more distant surface quarries.

On average, the Corporation's aggregates reserves exceed 60 years based on normalized production levels and approximate 100 years at current production rates.

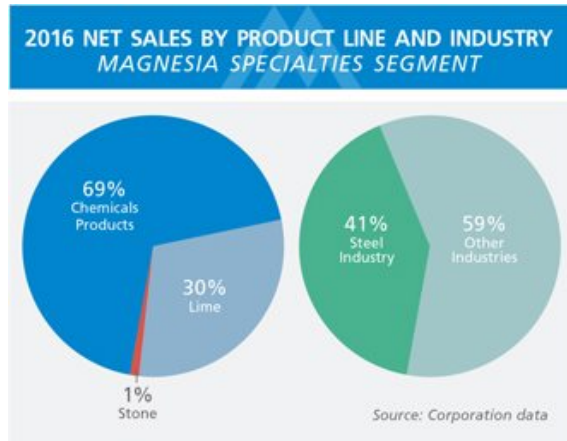
Magnesia Specialties Business Risks

Through its Magnesia Specialties segment, the Corporation manufactures and markets magnesia-based chemicals products for industrial, agricultural and environmental applications, and dolomitic lime for use primarily in the steel industry. In 2016, 69% of Magnesia Specialties' net sales were attributable to chemicals products, 30% were attributable to lime and 1% was attributable to stone.

In 2016, 83% of the lime produced was sold to third-party customers, while the remaining 17% was used internally as a raw material for the business' manufacturing of chemicals products. Dolomitic lime products sold to external customers are primarily used by the steel industry, and overall, 41% of Magnesia Specialties' 2016 net sales related to products used in the steel industry. Accordingly, a portion of the segment's revenues and profits is affected by production and inventory trends within the steel industry. These trends are guided by the rate of consumer consumption, the flow of offshore imports and other economic factors. Average steel production in 2016 declined 0.5% versus 2015. Declining steel utilization and United States dollar strength could adversely affect Magnesia Specialties' operating results.

Of Magnesia Specialties' 2016 total revenues, 18% came from foreign jurisdictions, including Canada, Mexico, Europe, South America and the Pacific Rim. As a result of foreign market sales, financial results could be affected by foreign currency exchange rates, increasing transportation costs or weak economic conditions in the foreign markets. To mitigate the short-term effect of currency exchange rates, the United States dollar is used as the functional currency in foreign transactions. However, the current strength of the United States dollar in foreign markets is affecting the overall price of Magnesia Specialties' products when compared to foreign-domiciled competitors.

Given high fixed costs, low capacity utilization can negatively affect the segment's results of operations. Further, the production of certain magnesia chemical products and lime products requires natural gas, coal and petroleum coke to fuel kilns. Price fluctuations of these fuels affect the segment's profitability.



The Magnesia Specialties business is highly dependent on rail transportation, particularly for movement of dolomitic lime from Woodville to Manistee and direct customer shipments of dolomitic lime and magnesia chemicals products from both Woodville and Manistee. The segment can be affected by the risks outlined in *Transportation Exposure* on pages 64 through 66. All of Magnesia Specialties' hourly workforce belongs to a labor union. Union contracts cover hourly employees at the Manistee, Michigan, magnesia-

based chemicals plant and the Woodville, Ohio, lime plant. The labor contract for the Woodville and Manistee locations expire in May 2018 and August 2019, respectively.

Management expects future organic growth to result from increased pricing, rationalization of the current product portfolio and/or further cost reductions. In the current operating environment where steel utilization is at levels close to 70% and the strength of the United States dollar pressures product competitiveness in international markets, any unplanned change in costs or customers introduces volatility to the earnings of the Magnesia Specialties segment.

Environmental Regulation and Litigation

The expansion and growth of the aggregates industry is subject to increasing challenges from environmental and political advocates hoping to control the pace and direction of future development. Certain environmental groups have published lists of targeted municipal areas, including areas within the Corporation's marketplace, for environmental and suburban growth control. The effect of these initiatives on the Corporation's growth is typically localized. Further challenges are expected as the momentum of these initiatives ebb and flow across the United States. Rail and other transportation alternatives are being heralded by these special-interest groups as solutions to mitigate road traffic congestion and overcrowding.

The Corporation's operations are subject to and affected by federal, state and local laws and regulations relating to the environment, health and safety and other regulatory matters. Certain of the Corporation's operations may occasionally use substances classified as toxic or hazardous. The Corporation regularly monitors and reviews its operations, procedures and policies for compliance with these laws and regulations. Despite these compliance efforts, risk of environmental liability is inherent in the operation of the Corporation's businesses, as it is with other companies engaged in similar businesses.

Environmental operating permits are, or may be, required for certain of the Corporation's operations; such permits are subject to modification, renewal and revocation. New permits are generally required for opening new sites or for

expansion at existing operations and can take several years to obtain. In the area of land use, rezoning and special or conditional use permits are increasingly difficult to obtain. Once a permit is issued, the location is required to generally operate in accordance with the approved site plan.

As is the case with other companies in the cement industry, the Corporation's cement operations produce varying quantities of cement kiln dust ("CKD"). This production byproduct consists of fine-grained, solid, highly alkaline material removed from cement kiln exhaust gas by air pollution control devices. Because much of the CKD is actually unreacted raw materials, it is generally permissible to recycle the CKD back into the production process, and large amounts are often treated in such manner. CKD that is not returned to the production process is disposed in landfills. CKD is currently exempted from federal hazardous waste regulations under Subtitle C of the Resource Conservation and Recovery Act ("RCRA").

The Clean Air Act, originally passed in 1963 and periodically updated by amendments, is the United States' national air pollution control program that granted the Environmental Protection Agency ("EPA") authority to set limits on the level of various air pollutants. To be in compliance with National Ambient Air Quality Standards ("NAAQS"), a defined geographic area must be below established limits for six pollutants. Environmental groups have been successful in lawsuits against the federal and certain state departments of transportation, delaying highway construction in municipal areas not in compliance with the Clean Air Act. The EPA designates geographic areas as nonattainment areas when the level of air pollutants exceeds the national standard. Nonattainment areas receive deadlines to reduce air pollutants by instituting various control strategies or otherwise face fines or control by the EPA. Included as nonattainment areas are several major metropolitan areas in the Corporation's markets, such as Houston/Brazoria/Galveston, Texas; Dallas/Fort Worth, Texas; Denver, Colorado; Boulder, Colorado; Fort Collins/Greeley/Loveland, Colorado; Council Bluffs, Iowa; Atlanta, Georgia; and Indianapolis, Indiana. Federal transportation funding has been directly tied to compliance with the Clean Air Act.

The EPA includes the lime industry as a national enforcement priority under the Clean Air Act. As part of the industry-wide effort, the EPA issued notices of violation/ findings of violation ("NOVs") to the Corporation in 2010 and 2011 regarding its compliance with the Clean Air Act's New Source Review ("NSR") program at its Magnesia Specialties dolomitic lime manufacturing plant in Woodville, Ohio. The Corporation has been providing information to the EPA in response to these NOVs and has had several meetings with the EPA. The Corporation believes it is in substantial compliance with the NSR program. At this time, the Corporation cannot reasonably estimate what likely penalties or upgrades to equipment might ultimately be required. The Corporation believes that any costs related to any required upgrades to capital equipment will be spread over time and will not have a material adverse effect on the Corporation's results of operations or its financial condition.

Large emitters (facilities that emit 25,000 metric tons or more per year) of greenhouse gases ("GHG") must report GHG generation to comply with the EPA's Mandatory Greenhouse Gases Reporting Rule ("GHG Rule"). The Corporation files annual reports in accordance with the GHG Rule relating to operations at its Magnesia Specialties facilities in Woodville, Ohio, and Manistee, Michigan, as well as the two cement plants in Texas, each of which emit certain GHG, including carbon dioxide, methane and nitrous oxide. If Congress passes legislation on GHG, these operations will likely be subject to the new program. Under President Trump's new administration, it is unknown whether the EPA is likely to impose additional regulatory restrictions on emissions of GHG. However, the Corporation believes that any increased operating costs or taxes related to GHG emission limitations at its Woodville or cement operations would be passed on to its customers. The Manistee facility may have to absorb extra costs due to the regulation of GHG emissions in order to maintain competitive pricing in its markets. The Corporation cannot reasonably predict how much those increased costs may be.

The Corporation is engaged in certain legal and administrative proceedings incidental to its normal business activities. In the opinion of management and counsel, based upon currently available facts, the likelihood is remote that the ultimate outcome of any litigation or other proceedings, including those pertaining to environmental matters, relating to the Corporation and its subsidiaries, will have a material adverse effect on the overall results of the Corporation's operations, cash flows or financial position.

FULL-YEAR 2017 OUTLOOK

The Corporation is encouraged by positive trends in the markets it serves and its ability to execute its strategic business plans. Notably:

- For the public sector, continued growth is expected in 2017 as new monies begin to flow into the system. FAST Act projects should accelerate through the year, supported by ongoing projects funded through TIFIA. Additionally, state initiatives to finance infrastructure projects, including the state and local ballot initiatives passed over the past 24 months, are expected to grow and continue to play an expanded role in public-sector activity.
- Nonresidential construction is expected to modestly increase in both the heavy industrial and commercial sectors. The Dodge Momentum Index is at its highest level since 2009, signaling continued growth. Additional energy-related economic activity, including follow-on public and private construction activity, will be mixed. While \$47 billion of new energy-related projects are scheduled to start in 2017 and 2018, the certainty and timing of commencement will affect nonresidential growth.
- Residential construction is expected to continue to experience growth, driven by employment gains, historically low levels of construction activity over the previous several years, low mortgage rates, significant lot absorption and higher multi-family rental rates.

Based on these trends and expectations, including a return to more normal weather patterns, the Corporation anticipates the following for the full year:

- Aggregates end-use markets compared with 2016 levels are as follows:
 - Infrastructure market to increase mid-single digits.
 - Nonresidential market to increase in the low- to mid-single digits.
 - Residential market to increase in the mid- to high-single digits.
 - ChemRock/Rail market to remain stable.

2017 GUIDANCE

(dollars and tons in millions, except per ton)

	Low	High
Consolidated Results		
Consolidated net sales ¹	\$ 3,750	\$ 3,950
Consolidated gross profit	\$ 1,000	\$ 1,100
SG&A	\$ 255	\$ 265
Interest expense	\$ 80	\$ 85
Estimated tax rate (excluding discrete events)	30%	30%
Capital Expenditures	\$ 350	\$ 400
EBITDA	\$ 1,050	\$ 1,130
Aggregates Product Line		
Volume (total tons) ²	165.0	167.0
% growth ²	4%	6%
Average selling price per ton	\$ 13.50	\$ 13.75
% growth	5%	7%
Net sales	\$ 2,200	\$ 2,300
Gross profit	\$ 660	\$ 725
Aggregates-related downstream operations		
Net sales	\$ 1,325	\$ 1,400
Gross profit	\$ 145	\$ 155
Cement		
Net sales	\$ 380	\$ 400
Gross profit	\$ 130	\$ 140
Magnesia Specialties		
Net sales	\$ 235	\$ 240
Gross profit	\$ 85	\$ 90

¹ Consolidated net sales reflect the elimination of \$390 million of interproduct and intersegment sales.

² Represents total aggregates volumes, which includes approximately 11.6 million internal tons. Volume growth ranges are in comparison to total volumes of 158.6 million tons as reported for the full year 2016, which includes 10.4 million internal tons.

Risks To Outlook

The 2017 outlook includes management's assessment of the likelihood of certain risks and uncertainties that will affect performance, including but not limited to: both price and volume; the United States Congress' inability to reach agreement among themselves or with the current Administration on policy issues, including the nature, extent and/or timing of infrastructure funding, that impact the federal budget; the termination, capping and/or reduction of state gasoline tax(es) or other state revenue related to infrastructure construction; the volatility in the commencement of infrastructure projects; a reduction in defense spending, and the subsequent impact on construction activity on or near military bases; a decline in nonresidential construction; a further decline in energy-related construction activity resulting from a sustained period of low global oil prices or changes in oil production patterns in response to this decline and certain regulatory or other economic factors; a slowdown in the residential construction recovery; a reduction in economic activity in the Corporation's Midwest states resulting from reduced funding levels provided by the *Agricultural Act of 2014* and a sustained reduction in capital investment by the railroads; an increase in the cost of compliance with governmental laws, rules and regulations; construction labor shortages; and unexpected equipment failures, unscheduled maintenance, industrial accident or other prolonged and/ or significant disruption to its cement and/or its Magnesia Specialties production facilities. Cement is subject to cyclical supply and demand and price fluctuations. The Magnesia Specialties business essentially runs at capacity; therefore any unplanned changes in costs or realignment of customers introduce volatility to the earnings of this segment.

The Corporation's principal business serves customers in aggregates-related construction markets. This concentration could increase the risk of potential losses on customer receivables; however, payment bonds normally posted on public projects, together with lien rights on private projects, mitigate the risk of uncollectible receivables. The level of aggregates demand in the Corporation's end-use markets, production levels and the management of production costs will affect the operating leverage of the Aggregates business and, therefore, profitability. Production costs in the Aggregates business are also sensitive to energy and raw material prices, both directly and indirectly. Diesel fuel and

other consumables change production costs directly through consumption or indirectly by increased energy-related input costs, such as steel, explosives, tires and conveyor belts. Fluctuating diesel fuel pricing also affects transportation costs, primarily through fuel surcharges in the Corporation's long-haul distribution network. The Cement business is also energy intensive and fluctuation in the price of coal affects costs. The Magnesia Specialties business is sensitive to changes in domestic steel capacity utilization as well as the absolute price and fluctuation in the cost of natural gas.

Transportation in the Corporation's long-haul network, particularly the supply of rail cars and locomotive power and condition of rail infrastructure to move trains, affects the Corporation's efficient transportation of aggregates into certain markets, most notably Texas, Colorado, Florida and the Gulf Coast. In addition, availability of rail cars and locomotives affects the Corporation's movement of essential dolomitic lime for magnesia chemicals, to both the Corporation's plant in Manistee, Michigan, and customers. The availability of trucks, drivers and railcars to transport the Corporation's product, particularly in markets experiencing high growth and increased demand, is also a risk and pressures the associated costs.

All of the Corporation's businesses are also subject to weather-related risks that can significantly affect production schedules and profitability. The first and fourth quarters are most adversely affected by winter weather. Hurricane activity in the Atlantic Ocean and Gulf Coast generally is most active during the third and fourth quarters. In fact, in early October 2016, Hurricane Matthew generated winds and significant amounts of rainfall disrupting operations in the Bahamas, Florida, Georgia and the Carolinas. However, after hurricane-related flood waters recede, management expects an increase in construction activity as roads, homes and businesses are repaired.

Risks to the outlook also include shipment declines resulting from economic events beyond the Corporation's control. In addition to the impact on nonresidential and residential construction, the Corporation is exposed to risk in its estimated outlook from interest cost related to its variable-rate debt.

The Corporation's future performance is also exposed to risks from tax reform at the federal and state levels.

For a discussion of additional risks, see *Forward-Looking Statements – Safe Harbor Provisions* on pages 86 and 87.

OTHER FINANCIAL INFORMATION

Critical Accounting Policies and Estimates

The Corporation's audited consolidated financial statements include certain critical estimates regarding the effect of matters that are inherently uncertain. These estimates require management's subjective and complex judgments. Amounts reported in the Corporation's consolidated financial statements could differ materially if management used different assumptions in making these estimates, resulting in actual results differing from those estimates. Methodologies used and assumptions selected by management in making these estimates, as well as the related disclosures, have been reviewed by and discussed with the Corporation's Audit Committee. Management's determination of the critical nature of accounting estimates and judgments may change from time to time depending on facts and circumstances that management cannot currently predict.

Business Combinations – Allocation of Purchase Price

The Corporation's Board of Directors and management regularly review strategic long-term plans, including potential investments in value-added acquisitions of related or similar businesses, which would increase the Corporation's market share and/or are related to the Corporation's existing markets. When an acquisition is completed, the Corporation's consolidated statements of earnings include the operating results of the acquired business starting from the date of acquisition, which is the date control is obtained. The purchase price is determined based on the fair value of assets and equity interests given to the seller and any future obligations to the seller as of the date of acquisition. Additionally, conversion of the seller's equity awards into equity awards of the Corporation can affect the purchase price. The Corporation allocates the purchase price to the fair values of the tangible and intangible assets acquired and liabilities assumed as valued at the date of acquisition. Goodwill is recorded for the excess of the purchase price over the net of the fair value of the identifiable assets acquired and liabilities assumed as of the acquisition date. The purchase price allocation is a critical accounting policy because the estimation of fair values of acquired assets and assumed liabilities is judgmental and requires various assumptions.

Further, the amounts and useful lives assigned to depreciable and amortizable assets versus amounts assigned to goodwill and indefinite-lived intangible assets, which are not amortized, can significantly affect the results of operations in the period of and for periods subsequent to a business combination.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction, and, therefore, represents an exit price. A fair-value measurement assumes the highest and best use of the asset by market participants, considering the use of the asset that is physically possible, legally permissible, and financially feasible at the measurement date. The Corporation assigns the highest level of fair value available to assets acquired and liabilities assumed based on the following options:

- Level 1 – Quoted prices in active markets for identical assets and liabilities
- Level 2 – Observable inputs, other than quoted prices, for similar assets or liabilities in active markets
- Level 3 – Unobservable inputs are used to value the asset or liability which includes the use of valuation models

Level 1 fair values are used to value investments in publicly-traded entities and assumed obligations for publicly-traded long-term debt.

Level 2 fair values are typically used to value acquired receivables, inventories, machinery and equipment, land, buildings, deferred income tax assets and liabilities, and accruals for payables, asset retirement obligations, environmental remediation and compliance obligations, and contingencies. Additionally, Level 2 fair values are typically used to value assumed contracts at other-than-market rates.

Level 3 fair values are used to value acquired mineral reserves and mineral interests produced and sold as final products, and separately-identifiable intangible assets. The fair values of mineral reserves and mineral interests are determined using an excess earnings approach, which requires management to estimate future cash flows, net of capital investments in the specific operation and contributory asset charges. The estimate of future cash flows is based on available historical information and future expectations and assumptions determined by management, but is inherently

uncertain. Key assumptions in estimating future cash flows include sales price, shipment volumes, production costs and capital needs. The present value of the projected net cash flows represents the fair value assigned to mineral reserves and mineral interests. The discount rate is a significant assumption used in the valuation model and is based on the required rate of return that a hypothetical market participant would require if purchasing the acquired business, with an adjustment for the risk of these assets not generating the projected cash flows.

The Corporation values separately-identifiable acquired intangible assets which may include, but are not limited to, permits, customer relationships, water rights and non-competition agreements. The fair values of these assets are typically determined by an excess earnings method, a replacement cost method or, in the case of water rights, a market approach.

The useful lives of amortizable intangible assets and the remaining useful lives for acquired machinery and equipment have a significant impact on earnings. The selected lives are based on the expected periods that the assets will provide value to the Corporation subsequent to the business combination.

The Corporation may adjust the amounts recognized for a business combination during a measurement period after the acquisition date. Any such adjustments are based on the Corporation obtaining additional information that existed at the acquisition date regarding the assets acquired or the liabilities assumed. Measurement-period adjustments are generally recorded as increases or decreases to the goodwill recognized in the transaction. The measurement period ends once the Corporation has obtained all necessary information that existed as of the acquisition date, but does not extend beyond one year from the date of acquisition. Any adjustments to assets acquired or liabilities assumed beyond the measurement period are recorded through earnings.

Impairment Review of Goodwill

Goodwill is required to be tested annually for impairment. An interim review is performed between annual tests if facts and circumstances indicate a potential impairment may exist. The impairment review of goodwill is a critical accounting estimate because goodwill represents 30% of the Corporation's total assets at December 31, 2016. Further, the evaluation

requires management to apply judgment and make assumptions, which may result in an impairment charge that could be material to the Corporation's financial condition and results of operations. The Corporation performs its impairment review as of October 1, which represents the annual evaluation date.

The Corporation's reporting units, which represent the level at which goodwill is tested for impairment, are based on the geographic regions of the Aggregates business. As of October 1, 2016, the reporting units for the Aggregates business were as follows:

- *Mid-Atlantic Division* , which includes North Carolina, South Carolina, Maryland and Virginia;
- *Mideast Division* , which includes Indiana, Kentucky, Ohio and West Virginia;
- *Midwest Division* , which includes Iowa, northern Kansas, Minnesota, Missouri, eastern Nebraska and Washington;
- *Southeast Division* , which includes Alabama, Florida, Georgia, Tennessee and offshore operations in the Bahamas and Nova Scotia;
- *Rocky Mountain Division* , which includes Colorado, western Nebraska, Nevada, Utah and Wyoming; and
- *Southwest Division* , which includes Arkansas, southern Kansas, Louisiana, Oklahoma and Texas.

Additionally, the Cement business is a separate reporting unit. There is no goodwill related to the Magnesia Specialties business.

Disclosures for certain of the aforementioned reporting units within the Aggregates business meet the aggregation criteria and are consolidated as reportable segments for financial reporting purposes.

Goodwill is assigned to the respective reporting unit(s) based on the location of acquisitions at the time of consummation. Goodwill is tested for impairment by comparing the reporting unit's fair value to its carrying value, which represents Step 1 of a two-step approach. However, prior to Step 1, the Corporation may perform an optional qualitative assessment. As part of the qualitative assessment, the Corporation considers, among other things, the following events and circumstances: macroeconomic conditions, industry and market conditions, cost factors, overall financial performance and other business- or reporting unit-specific

events. If the Corporation concludes it is more-likely-than-not (i.e., a likelihood of more than 50%) that a reporting unit's fair value is higher than its carrying value, the Corporation does not perform any further goodwill impairment testing for that reporting unit. Otherwise, it proceeds to Step 1 of its goodwill impairment analysis. The Corporation may bypass the qualitative assessment for any reporting unit in any period and proceed directly with the quantitative calculation in Step 1. When the Corporation validates its conclusion by measuring fair value, it may resume performing a qualitative assessment for a reporting unit in any subsequent period. If the reporting unit's fair value exceeds its carrying value, no further calculation is necessary. A reporting unit with a carrying value in excess of its fair value constitutes a Step 1 failure and leads to an impairment charge. The Financial Accounting Standards Board ("FASB") recently issued an accounting standards update simplifying the calculation of the impairment charge. Step 2 of the analysis, which was used to determine the amount of impairment charge, was removed. Instead, the impairment charge will be calculated as the excess of the carrying value over fair value. The accounting standards update is effective for impairment tests performed after December 15, 2019, with early adoption permitted.

In 2016, the Corporation performed a Step-1 analysis for the Aggregates and Cement businesses. The Step-1 analysis for the Aggregates business reporting units was performed to update the fair values, as the Corporation had performed a qualitative assessment for the previous evaluation. The Cement business reporting unit was acquired in 2014, and a Step-1 analysis was performed again in 2016. The fair values were calculated using a discounted cash flow model. Key assumptions included management's estimates of future profitability, capital requirements, discount rates ranging from 10.0% to 10.5% and a terminal growth rate of 2.5%. Each of the Aggregates business reporting units passed the Step-1 analysis by a significant margin. The fair value of the Cement business reporting unit exceeded its carrying value by 10%, or \$163 million. For sensitivity purposes, a 100-basis-point increase in the discount rate, holding all other assumptions constant, would result in the Cement business reporting unit failing the Step-1 analysis. The Cement business reporting unit had \$865 million of goodwill at December 31, 2016.

Price, cost and volume changes, profitability, efficiency improvements, the discount rate and the terminal growth rate are significant assumptions in performing a Step-1 analysis. These assumptions are interdependent and have a significant impact on the results of the test.

Future profitability and capital requirements are, by their nature, estimates. Price, cost and volume assumptions were based on current forecasts, including the use of external sources, and market conditions. Capital requirements included maintenance-level needs, efficiency projects and known capacity-increasing initiatives.

A discount rate is calculated for each reporting unit that requires a Step-1 analysis and represents its weighted average cost of capital. The calculation of the discount rate includes the following components, which are primarily based on published sources: equity risk premium, historical beta, risk-free interest rate, small-stock premium, company-specific premium and borrowing rate.

The terminal growth rate was based on the projected annual increase in Gross Domestic Product.

Management believes that all assumptions used were reasonable based on historical operating results and expected future trends. However, if future operating results are unfavorable as compared with forecasts, the results of future goodwill impairment evaluations could be negatively affected. Further, mineral reserves, which represent underlying assets producing the reporting units' cash flows for the Aggregates and Cement businesses, are depleting assets by their nature. The potential write off of goodwill from future evaluations represents a risk to the Corporation.

Pension Expense-Selection of Assumptions

The Corporation sponsors noncontributory defined benefit pension plans that cover substantially all employees and a Supplemental Excess Retirement Plan ("SERP") for certain retirees (see Note J to the audited consolidated financial statements on pages 28 through 32). Annual pension expense (inclusive of SERP expense) consists of several components:

- *Service Cost* , which represents the present value of benefits attributed to services rendered in the current year, measured by expected future salary levels.
- *Interest Cost* , which represents one year's additional interest on the outstanding liability.
- *Expected Return on Assets* , which represents the expected investment return on pension fund assets.
- *Amortization of Prior Service Cost and Actuarial Gains and Losses* , which represents components that are recognized over time rather than immediately. Prior service cost represents credit given to employees for years of service prior to plan inception. Actuarial gains and losses arise from changes in assumptions regarding future events or when actual returns on assets differ from expected returns. At December 31, 2016, unrecognized actuarial loss and unrecognized prior service cost were \$218.1 million and \$0.4 million, respectively. Pension accounting rules currently allow companies to amortize the portion of the unrecognized actuarial loss that represents more than 10% of the greater of the projected benefit obligation or pension plan assets, using the average remaining service life for the amortization period. Therefore, the \$218.1 million unrecognized actuarial loss consists of \$134.9 million currently subject to amortization in 2017 and \$83.2 million not subject to amortization in 2017. \$14.1 million of amortization of the actuarial loss is estimated to be a component of 2017 annual pension expense.

These components are calculated annually to determine the pension expense reflected in the Corporation's results of operations.

Management believes the selection of assumptions related to the annual pension expense is a critical accounting estimate due to the high degree of volatility in the expense dependent on selected assumptions. The key assumptions are as follows:

- The *discount rate* is used to present value the pension obligation and represents the current rate at which the pension obligations could be effectively settled.

- The *expected long-term rate of return on pension fund assets* is used to estimate future asset returns and should reflect the average rate of long-term earnings on assets invested to provide for the benefits included in the projected benefit obligation.
- The *mortality table* represents published statistics on the expected lives of people.
- The *rate of increase in future compensation levels* is also a key assumption that projects the pay-related pension benefit formula and should estimate actual future compensation levels.

Management's selection of the discount rate is based on an analysis that estimates the current rate of return for high-quality, fixed-income investments with maturities matching the payment of pension benefits that could be purchased to settle the obligations. The Corporation selected a hypothetical portfolio of Moody's Aa bonds, with maturities that mirror the benefit obligations, to determine the discount rate. At December 31, 2016, the Corporation selected a discount rate assumption of 4.29%, a 38-basis-point decrease from the prior-year assumption. Of the four key assumptions, the discount rate is generally the most volatile and sensitive estimate. Accordingly, a change in this assumption has the most significant impact on the annual pension expense.

Management's selection of the rate of increase in future compensation levels is generally based on the Corporation's historical salary increases, including cost of living adjustments and merit and promotion increases, giving consideration to any known future trends. A higher rate of increase results in higher pension expense. The assumed long-term rate of increase of 4.5% is consistent with the prior year's assumption.

Management's selection of the expected long-term rate of return on pension fund assets is based on a building-block approach, whereby the components are weighted based on the allocation of pension plan assets. Given that these returns are long-term, there are generally not significant fluctuations in the expected rate of return from year to year. Based on the currently projected returns on these assets and related expenses, the Corporation selected an expected return on assets of 6.75%, a 25-basis-point decrease from the prior-year rate. The following table presents the expected return on pension assets as compared with the actual return on pension assets:

(add 000)	Expected Return on Pension Assets	Actual Return on Pension Assets
2016	\$37,699	\$35,432
2015	\$36,385	\$ (651)
2014	\$32,661	\$26,186

The difference between expected return on pension assets and the actual return on pension assets is not immediately recognized in the consolidated statements of earnings. Rather, pension accounting rules require the difference to be included in actuarial gains and losses, which are amortized into annual pension expense as previously described.

The Corporation estimates the remaining lives of participants in the pension plans using the Society of Actuaries' RP-2014 Base Mortality Table. The no-collar table was used for salaried participants and the blue-collar table, reflecting the experience of the Corporation's participants, was used for hourly participants. The Corporation selected the MP-2016 scale for mortality improvement.

Assumptions are selected on December 31 to calculate the succeeding year's expense. For the 2016 pension expense, assumptions selected at December 31, 2015 were as follows:

Discount rate	4.67%
Rate of increase in future compensation levels	4.50%
Expected long-term rate of return on assets	7.00%
Average remaining service period for participants	10 years
Mortality Tables:	
Base Table	RP-2014
Mortality Improvement Scale	BB-2D

Using these assumptions, 2016 pension expense was \$33.7 million. A change in the assumptions would have had the following impact on 2016 expense:

- A change of 25 basis points in the discount rate would have changed 2016 expense by approximately \$3.2 million.
- A change of 25 basis points in the expected long-term rate of return on assets would have changed the 2016 expense by approximately \$1.3 million.

For 2017 pension expense, assumptions selected at December 31, 2016 were as follows:

Discount rate	4.29%
Rate of increase in future compensation levels	4.50%
Expected long-term rate of return on assets	6.75%
Average remaining service period for participants	10 years
Mortality Tables:	
Base Table	RP-2014
Mortality Improvement Scale	MP-2016

Using these assumptions, 2017 pension expense is expected to be approximately \$37.0 million based on current demographics and structure of the plans. Changes in the underlying assumptions would have the following estimated impact on the 2017 expected expense:

- A change of 25 basis points in the discount rate would change the 2017 expected expense by approximately \$3.6 million.
- A change of 25 basis points in the expected long-term rate of return on assets would change the 2017 expected expense by approximately \$1.5 million.

The Corporation made pension plan contributions of \$44.8 million in 2016 and \$186.7 million for the five-year period ended December 31, 2016. Despite these contributions, the Corporation's pension plans are underfunded (projected benefit obligation exceeds the fair value of plan assets) by \$235.6 million at December 31, 2016. The Corporation's projected benefit obligation was \$831.8 million at December 31, 2016, an increase of \$77.3 million over the prior year, driven by the lower discount rate. The Corporation expects to make pension plan and SERP contributions of \$32.5 million in 2017.

Estimated Effective Income Tax Rate

The Corporation uses the liability method to determine its provision for income taxes. Accordingly, the annual provision for income taxes reflects estimates of the current liability for income taxes, estimates of the tax effect of financial reporting versus tax basis differences using statutory income tax rates and management's judgment with respect to any valuation allowances on deferred tax assets. The result is management's estimate of the annual effective tax rate (the "ETR").

Income for tax purposes is determined through the application of the rules and regulations under the United States Internal Revenue Code and the statutes of various foreign,

state and local tax jurisdictions in which the Corporation conducts business. Changes in the statutory tax rates and/or tax laws in these jurisdictions can have a material effect on the ETR. The effect of these changes, if any, is recognized when the change is enacted.

As prescribed by these tax regulations, as well as generally accepted accounting principles, the manner in which revenues and expenses are recognized for financial reporting and income tax purposes is not always the same. Therefore, these differences between the Corporation's pretax income for financial reporting purposes and the amount of taxable income for income tax purposes are treated as either temporary or permanent, depending on their nature.

Temporary differences reflect revenues or expenses that are recognized in financial reporting in one period and taxable income in a different period. An example of a temporary difference is the use of the straight-line method of depreciation of machinery and equipment for financial reporting purposes and the use of an accelerated method for income tax purposes. Temporary differences result from differences between the financial reporting basis and tax basis of assets or liabilities and give rise to deferred tax assets or liabilities (i.e., future tax deductions or future taxable income). Therefore, when temporary differences occur, they are offset by a corresponding change in a deferred tax account. As such, total income tax expense as reported in the Corporation's consolidated statements of earnings is not changed by temporary differences.

The Corporation has deferred tax liabilities, primarily for property, plant and equipment and goodwill. The deferred tax liabilities attributable to property, plant and equipment relate to accelerated depreciation and depletion methods used for income tax purposes as compared with the straight-line and units of production methods used for financial reporting purposes. These temporary differences will reverse over the remaining useful lives of the related assets. The deferred tax liabilities attributable to goodwill arise as a result of amortizing goodwill for income tax purposes but not for financial reporting purposes. This temporary difference reverses when goodwill is written off for financial reporting purposes, either through divestitures or an impairment charge. The timing of such events cannot be estimated.

The Corporation has deferred tax assets, primarily for unvested stock-based compensation awards, employee pension and postretirement benefits, valuation reserves, inventories, net operating loss carryforwards and tax credit carryforwards. The deferred tax assets attributable to unvested stock-based compensation awards relate to differences in the timing of deductibility for financial reporting purposes versus income tax purposes. For financial reporting purposes, the fair value of the awards is deducted ratably over the requisite service period. For income tax purposes, no deduction is allowed until the award is vested or no longer subject to substantial risk of forfeiture. Deferred tax assets are carried on stock options that have exercise prices in excess of the closing price of the Corporation's common stock at December 31, 2016. If these options expire without being exercised, the deferred tax assets are written off by reducing the pool of excess tax benefits to the extent available and expensing any excess. Beginning January 1, 2017, the Corporation will record all excess tax benefits and tax deficiencies as income tax expense or benefit as a discrete event in the period in which the award vests or settles, increasing volatility in the income tax rate from period to period. The deferred tax assets attributable to employee pension and postretirement benefits relate to deductions as plans are funded for income tax purposes compared with deductions for financial reporting purposes based on accounting standards. The reversal of these differences depends on the timing of the Corporation's contributions to the related benefit plans as compared to the annual expense for financial reporting purposes. The deferred tax assets attributable to valuation reserves and inventories relate to the deduction of estimated cost reserves and various period expenses for financial reporting purposes that are deductible in a later period for income tax purposes. The reversal of these differences depends on facts and circumstances, including the timing of deduction for income tax purposes for reserves previously established and the establishment of additional reserves for financial reporting purposes. At December 31, 2016, the Corporation had state net operating loss carryforwards of \$220.5 million with varying expiration dates through 2036 and related state deferred tax assets of \$10.5 million. The Corporation recorded a valuation allowance of \$8.3 million for these deferred tax assets based on the uncertainty of generating future taxable income in the respective jurisdictions during the limited period that the net operating loss carryforwards can be utilized under state statutes. The Corporation utilized total federal net operating

loss carryforwards of \$33.9 million in 2016. The Corporation had domestic state tax credit carryforwards of \$1.4 million, for which a valuation allowance of \$0.2 million was recorded at December 31, 2016. Additionally, the Corporation had Alternative Minimum Tax ("AMT") credit carryforwards of \$17.2 million.

Property, Plant and Equipment

Net property, plant and equipment represent 47% of total assets at December 31, 2016. Accordingly, accounting for these assets represents a critical accounting policy. Useful lives of the assets can vary depending on factors, including production levels, geographic location, portability and maintenance practices. Additionally, climate and inclement weather can reduce the useful life of an asset. Historically, the Corporation has not recognized significant losses on the disposal or retirement of fixed assets.

The Corporation evaluates aggregates reserves, including aggregates reserves used in the cement manufacturing process, in several ways, depending on the geology at a particular location and whether the location is a potential new site (greensite), an acquisition or an existing operation. Greensites require an extensive drilling program before any significant investment is made in terms of time, site development or efforts to obtain appropriate zoning and permitting (see section *Environmental Regulation and Litigation* on pages 68 through 70). The depth of overburden and the quality and quantity of the aggregates reserves are significant factors in determining whether to pursue opening the site. Further, the estimated average selling price for products in a market is also a significant factor in concluding that reserves are economically mineable. If the Corporation's analysis based on these factors is satisfactory, the total aggregates reserves available are calculated and a determination is made whether to open the location. Reserve evaluation at existing locations is typically performed to evaluate purchasing adjoining properties, for quality control, calculating overburden volumes and for mine planning. Reserve evaluation of acquisitions may require a higher degree of sampling to locate any problem areas that may exist and to verify the total reserves.

Well-ordered subsurface sampling of the underlying deposit is basic to determining reserves at any location. This subsurface sampling usually involves one or more types of drilling, determined by the nature of the material to be sampled and the

particular objective of the sampling. The Corporation's objectives are to ensure that the underlying deposit meets aggregates specifications and the total reserves on site are sufficient for mining and economically recoverable. Locations underlain with hard rock deposits, such as granite and limestone, are drilled using the diamond core method, which provides the most useful and accurate samples of the deposit. Selected core samples are tested for soundness, abrasion resistance and other physical properties relevant to the aggregates industry and depending on its use. The number and depth of the holes are determined by the size of the site and the complexity of the site-specific geology. Some geological factors that may affect the number and depth of holes include faults, folds, chemical irregularities, clay pockets, thickness of formations and weathering. A typical spacing of core holes on the area to be tested is one hole for every four acres, but wider spacing may be justified if the deposit is homogeneous.

Despite previous drilling and sampling, once accessed, the quality of reserves within a deposit can vary. Construction contracts, for the infrastructure market in particular, include specifications related to the aggregates material. If a flaw in the deposit is discovered, the aggregates material may not meet the required specifications. This can have an adverse effect on the Corporation's ability to serve certain customers or on the Corporation's profitability. In addition, other issues can arise that limit the Corporation's ability to access reserves in a particular quarry, including geological occurrences, blasting practices and zoning issues.

Locations underlain with sand and gravel are typically drilled using the auger method, whereby a 6-inch corkscrew brings up material from below the ground which is then sampled. Deposits in these locations are typically limited in thickness, and the quality and sand-to-gravel ratio of the deposit can vary both horizontally and vertically. Hole spacing at these locations is approximately one hole for every acre to ensure a representative sampling.

The geologist conducting the reserve evaluation makes the decision as to the number of holes and the spacing in accordance with standards and procedures established by the Corporation. Further, the anticipated heterogeneity of the deposit, based on U.S. geological maps, also dictates the number of holes used.

The generally accepted reserve categories for the aggregates industry and the designations the Corporation uses for reserve categories are summarized as follows:

Proven Reserves – These reserves are designated using closely spaced drill data as described above and a determination by a professional geologist that the deposit is relatively homogeneous based on the drilling results and exploration data provided in U.S. geologic maps, the U.S. Department of Agriculture soil maps, aerial photographs and/or electromagnetic, seismic or other surveys conducted by independent geotechnical engineering firms. The proven reserves that are recorded reflect reductions incurred as a result of quarrying that result from leaving ramps, safety benches, pillars (underground) and the fines (small particles) that will be generated during processing. Proven reserves are further reduced by reserves that are under the plant and stockpile areas, as well as setbacks from neighboring property lines. The Corporation typically assumes a loss factor of 25%. However, the assumed loss factor at coastal operations is approximately 40% due to the nature of the material. The assumed loss factor for underground operations is 35% primarily due to pillars.

Probable Reserves – These reserves are inferred utilizing fewer drill holes and/or assumptions about the economically recoverable reserves based on local geology or drill results from adjacent properties.

The Corporation's proven and probable reserves reflect reasonable economic and operating constraints as to maximum depth of overburden and stone excavation, and also include reserves at the Corporation's inactive and undeveloped sites, including some sites where permitting and zoning applications will not be filed until warranted by expected future growth. The Corporation has historically been successful in obtaining and maintaining appropriate zoning and permitting (see section *Environmental Regulation and Litigation* on pages 68 through 70).

Mineral reserves and mineral interests, when acquired in connection with a business combination, are valued using an excess earnings approach for the life of the proven and probable reserves.

The Corporation uses proven and probable reserves as the denominator in its units-of-production calculation to record depletion expense for its mineral reserves and mineral interests. During 2016, depletion expense was \$15.9 million.

The Corporation begins capitalizing quarry development costs at a point when reserves are determined to be proven or probable, economically mineable and when demand supports investment in the market. Capitalization of these costs ceases when production commences. Quarry development costs are classified as land improvements.

New mining areas may be developed at existing quarries in order to access additional reserves. When this occurs, management reviews the facts and circumstances of each situation in making a determination as to the appropriateness of capitalizing or expensing the related pre-production development costs. If the additional mining location operates in a separate and distinct area of a quarry, the costs are capitalized as quarry development costs and depreciated over the life of the uncovered reserves. Further, a separate asset retirement obligation is created for additional mining areas when the liability is incurred. Once a new mining area enters the production phase, all post-production stripping costs are expensed as incurred as periodic inventory production costs.

Inventory Standards

The Corporation values its finished goods inventories under the first-in, first-out methodology using standard costs. For quarries, standards are developed using production costs for a twelve-month period, in addition to complying with the principle of lower of cost or net realizable value, and adjusting, if necessary, for normal capacity levels and abnormal costs. In addition to production costs, standards for distribution yards include a freight component for the cost of transporting the inventory from a quarry to the distribution yard and materials handling costs. Pre-operating start-up costs are expensed as incurred and not capitalized as part of inventory costs. In periods in which production costs, in particular, energy costs, and/or production volumes have changed significantly from the prior period, the revision of standards can have a significant impact on the Corporation's operating results (see section *Cost Structure* on pages 62 through 64).

Standard costs for the Aggregates business are updated on a quarterly basis to match finished goods inventory values with changes in production costs and production volumes.

Liquidity and Cash Flows

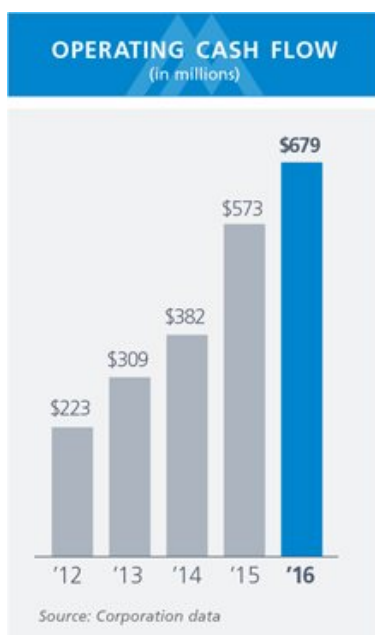
Operating Activities

The Corporation's primary source of liquidity during the past three years has been cash generated from its operating activities. Operating cash flow is substantially derived from consolidated net earnings, before deducting depreciation, depletion and amortization, and offset by working capital requirements. Cash provided by operations was \$678.7 million in 2016, \$573.2 million in 2015 and \$381.7 million in 2014. The increases in 2016 and 2015 were primarily attributable to higher earnings before depreciation, depletion and amortization expense.

Depreciation, depletion and amortization were as follows:

years ended December 31 (add 000)	2016	2015	2014
Depreciation	\$ 253,028	\$ 232,527	\$ 200,242
Depletion	15,907	14,347	11,000
Amortization	16,318	16,713	11,504
Total	\$ 285,253	\$ 263,587	\$ 222,746

The increase in depreciation, depletion and amortization expense in 2016 is primarily due to the Medina Rock and Rail capital project, which was completed at the end of 2015. The increase in 2015 is primarily attributable to the TXI acquisition on July 1, 2014.



Investing Activities

Net cash used for investing activities was \$555.3 million in 2016 and \$49.3 million in 2014 and net cash provided by investing activities was \$88.5 million in 2015.

Property, plant and equipment capitalized by reportable segment, excluding acquisitions, was as follows:

years ended December 31 (add 000)	2016	2015	2014
Mid-America Group	\$ 150,490	\$ 73,255	\$ 75,253
Southeast Group	30,588	12,155	22,135
West Group	175,862	198,570	112,994
Total Aggregates Business	356,940	283,980	210,382
Cement	28,633	9,599	3,864
Magnesia Specialties	8,944	8,916	2,588
Corporate	9,031	15,737	15,349
Total	\$ 403,548	\$ 318,232	\$ 232,183

In 2016, the increase in capital spending in the Mid-America Group is primarily due to the purchase of land in South Carolina and mobile equipment. Increased capital spending in 2015 and 2014 for the West Group is attributable to investments in the legacy TXI locations and the construction of the new Medina limestone quarry near San Antonio, the largest internal capital project in the Corporation's history.

The Corporation paid cash of \$178.8 million, \$43.2 million and \$0.2 million for acquisitions in 2016, 2015 and 2014, respectively.

Proceeds from divestitures and sales of assets were \$6.5 million in 2016, \$448.1 million in 2015 and \$122.0 million in 2014. This pretax cash is generated from the sales of surplus land and equipment. In 2015, the amount also reflects the divestiture of the California cement operations. In 2014, the proceeds reflect the required sale of an aggregates quarry in Oklahoma and two rail yards in Texas as a result of an agreement between the Corporation and the U.S. Department of Justice as part of its review of the TXI business combination.

Financing Activities

The Corporation used \$241.7 million, \$601.9 million and \$266.1 million of cash for financing activities during 2016, 2015 and 2014, respectively.

Net borrowings of long-term debt in 2016 were \$110.7 million and net repayments of long-term debt were \$14.7 million and \$188.5 million in 2015 and 2014, respectively. As discussed in Note G of the audited consolidated financial statements, on December 5, 2016, the Corporation entered into a credit agreement ("Credit Agreement") with a syndication of lenders, which provides a \$700 million five-year senior unsecured revolving facility (the "Revolving Facility") and expires December 5, 2021. The Revolving Facility replaced the existing credit agreement at that time. The Corporation paid \$2.3 million of debt issuance costs related to the facility.

During 2016, the Corporation repurchased 1.6 million shares for a total cost of \$259.2 million, or \$163.24 per share. 3.3 million shares were repurchased during 2015 for a total cost of \$520.0 million, or \$158.28 per share.

For the year ended December 31, 2016, the Board of Directors approved total cash dividends on the Corporation's common stock of \$1.64 per share. For the years ended December 31, 2015 and 2014, the approved total cash dividends was \$1.60 per share for each year. Total cash dividends were \$105.0 million in 2016, \$107.5 million in 2015 and \$91.3 million in 2014.

Cash provided by issuances of common stock, which represents the exercises of stock options, was \$21.3 million, \$37.1 million and \$39.7 million in 2016, 2015 and 2014, respectively.

Excess tax benefits from stock-based compensation transactions were \$6.8 million and \$2.5 million in 2016 and 2014, respectively. There was no excess tax benefit from stock-based compensation in 2015.

During 2014, the Corporation acquired the remaining interests in two joint ventures in separate transactions for \$19.5 million.

Capital Structure and Resources

Long-term debt, including current maturities, was \$1.686 billion at the end of 2016. The Corporation's debt was principally in the form of publicly-issued long-term notes and debentures and \$340 million of borrowings under variable-rate credit facilities at December 31, 2016.

On September 28, 2016, the Corporation, through a wholly-owned special-purpose subsidiary, amended its trade receivable securitization facility (the "Trade Receivable Facility") to increase the borrowing capacity from \$250 million to \$300 million and extend the maturity to September 27, 2017. The Trade Receivable Facility is backed by eligible trade receivables, as defined. Borrowings are limited to the lesser of the facility limit or the borrowing base, as defined, of \$333.3 million at December 31, 2016. These receivables are originated by the Corporation and then sold or contributed to the wholly-owned special-purpose subsidiary by the Corporation. The Corporation continues to be responsible for the servicing and administration of the receivables purchased by the wholly-owned special-purpose subsidiary. The Trade Receivable Facility contains a cross-default provision to the Corporation's other debt agreements.

The Revolving Facility requires the Corporation's ratio of consolidated debt-to-consolidated EBITDA, as defined by the Corporation's Credit Agreement, for the trailing-twelve month period (the "Ratio") to not exceed 3.5x as of the end of any fiscal quarter, provided that the Corporation may exclude from the Ratio debt incurred in connection with certain acquisitions during the quarter or the three preceding quarters so long as the Ratio calculated without such exclusion does not exceed 3.75x. Additionally, under the Credit Agreement, if there are no amounts outstanding under the Revolving Facility and Trade Receivable Facility, consolidated debt, including debt for which the Corporation is a co-borrower, will be reduced for purposes of the covenant calculation by the Corporation's unrestricted cash and cash equivalents in excess of \$50 million, such reduction not to exceed \$200 million.

At December 31, 2016, the Corporation's ratio of consolidated net debt-to-consolidated EBITDA, as defined by the Corporation's Credit Agreement, for the trailing-twelve month EBITDA was 1.73 times and was calculated as follows (dollars in thousands):

	Twelve-Month Period January 1, 2016 to December 31, 2016
Net earnings from continuing operations attributable to Martin Marietta	
Materials	\$ 425,386
Add back:	
Interest expense	81,677
Income tax expense	181,524
Depreciation, depletion and amortization expense	282,840
Stock-based compensation expense	20,481
Deduct:	
Interest income	(451)
Nonrecurring gain, net	(5,099)
Consolidated EBITDA, as defined by the Corporation's Credit Agreement	<u>\$ 986,358</u>
Consolidated net debt, as defined and including debt for which the Corporation is a co-borrower, at December 31, 2016	<u>\$1,708,777</u>
Consolidated net debt-to-consolidated EBITDA, as defined by the Corporation's Credit Agreement, at December 31, 2016 for trailing-twelve month EBITDA	<u>1.73x</u>

Total equity was \$4.14 billion at December 31, 2016. At that date, the Corporation had an accumulated other comprehensive loss of \$130.7 million, resulting from unrecognized actuarial losses and prior service costs related to pension and postretirement benefits, foreign currency translation loss and the unamortized loss on terminated forward starting interest rate swap agreements.

The Corporation may repurchase shares of its common stock through open-market purchases pursuant to authority granted by its Board of Directors or through private transactions at such prices and upon such terms as the Chief Executive Officer deems appropriate. During 2015, the Board of Directors granted authority for the Corporation to repurchase an additional 15.0 million shares of common stock for a total repurchase authorization of 20.0 million shares. Under that authorization, the Corporation, in 2016, repurchased 1.6 million shares of its common stock for an aggregate purchase price of \$259.2 million. In the near term, the Corporation expects to allocate capital for

additional share repurchases based on available excess free cash flow, defined as operating cash flow less capital expenditures and dividends, subject to a leverage target of 2.0 times net debt-to-consolidated EBITDA and consideration of other capital needs. Future repurchases are expected to be carried out through a variety of methods, which may include open market purchases, privately negotiated transactions, block trades, accelerated share purchase transactions or any combination of such methods. The Corporation expects to complete the repurchase program over the next several years, though the actual timing of completion will be based on an ongoing assessment of the capital needs of the business, the market price of its common stock and general market conditions. Share repurchases will be executed based on then-current business and market factors so the actual return of capital in any single quarter may vary. The repurchase program may be modified, suspended or discontinued by the Board of Directors at any time without prior notice.

At December 31, 2016, the Corporation had \$50.0 million in cash and short-term investments that are considered cash equivalents. The Corporation manages its cash and cash equivalents to ensure short-term operating cash needs are met and excess funds are managed efficiently. The Corporation subsidizes shortages in operating cash through credit facilities. The Corporation utilizes excess cash to either pay-down credit facility borrowings or invest in money market funds, money market demand deposit accounts or Eurodollar time deposit accounts. Money market demand deposits and Eurodollar time deposit accounts are exposed to bank solvency risk. Money market demand deposit accounts are FDIC insured up to \$250,000. The Corporation's investments in bank funds generally exceed the \$250,000 FDIC insurance limit. The Corporation's cash management policy prohibits cash and cash equivalents over \$100 million to be maintained at any one bank.

Cash on hand, along with the Corporation's projected internal cash flows and availability of financing resources, including its access to debt and equity capital markets, is expected to continue to be sufficient to provide the capital resources necessary to support anticipated operating needs, cover debt service requirements including maturities in 2017 and

2018, meet capital expenditures and discretionary investment needs, fund certain acquisition opportunities that may arise and allow for payment of dividends for the foreseeable future. Borrowings under the Credit Agreement are unsecured and may be used for general corporate purposes. The Corporation's ability to borrow or issue securities is dependent upon, among other things, prevailing economic, financial and market conditions. At December 31, 2016, the Corporation had \$657.5 million of unused borrowing capacity under its Revolving Facility and Trade Receivable Facility. The Revolving Facility expires on December 5, 2021 and the Trade Receivable Facility matures on September 27, 2017.

The Corporation may be required to obtain financing in order to fund certain strategic acquisitions, if any such opportunities arise, or to refinance outstanding debt. Any strategic acquisition of size would likely require an appropriate balance of newly-issued equity with debt in order to maintain a composite investment-grade credit rating. Furthermore, the Corporation is exposed to credit markets through the interest cost related to its variable-rate debt, which includes \$300 million of Notes due 2017 and borrowings under its Revolving Facility and Trade Receivable Facility. The Corporation is currently rated by three credit rating agencies; two of those agencies' credit ratings are investment-grade level and the third agency's credit rating is one level below investment-grade.

Contractual and Off Balance Sheet Obligations

Postretirement medical benefits will be paid from the Corporation's assets. The obligation, if any, for retiree medical payments is subject to the terms of the plan. At December 31, 2016, the Corporation's recorded benefit obligation related to these benefits totaled \$20.6 million.

The Corporation has other retirement benefits related to pension plans. At December 31, 2016, the qualified pension plans were underfunded by \$133.3 million. Inclusive of required amounts, the Corporation estimates that it will make contributions of \$25.0 million to qualified pension plans in 2017. Any contributions beyond 2017 are currently

undeterminable and will depend on the investment return on the related pension assets. However, management's practice is to fund at least the normal service cost annually. At December 31, 2016, the Corporation had a total obligation of \$102.3 million related to unfunded nonqualified pension plans and expects to make contributions of \$7.5 million in 2017.

At December 31, 2016, the Corporation had \$21.8 million accrued for uncertain tax positions, which was offset by a \$14.4 million AMT credit. Such liabilities may become payable if the tax positions are not sustained upon examination by a taxing authority.

In connection with normal, ongoing operations, the Corporation enters into market-rate leases for property, plant and equipment and royalty commitments principally associated with leased land. Additionally, the Corporation enters into equipment rentals to meet shorter-term, non-recurring and intermittent needs. At December 31, 2016, the Corporation had \$15.6 million in capital lease obligations. Amounts due for operating leases and royalty agreements are expensed in the period incurred. Management anticipates that, in the ordinary course of business, the Corporation will enter into additional royalty agreements for land and mineral reserves during 2017.

The Corporation has purchase commitments for property, plant and equipment of \$94.1 million as of December 31, 2016. The Corporation also has other purchase obligations related to energy and service contracts which totaled \$106.3 million as of December 31, 2016.

The Corporation's contractual commitments as of December 31, 2016 are as follows:

(add 000)	Total	< 1 Year	1 to 3 Years	3 to 5 Years	> 5 Years
ON BALANCE SHEET:					
Long-term debt	\$ 1,686,190	\$ 180,036	\$ 299,589	\$ 459,158	\$ 747,407
Postretirement benefits	20,590	3,070	4,120	3,654	9,746
Qualified pension plan contributions ¹	25,026	25,026	-	-	-
Unfunded pension plan contributions	102,297	7,512	17,088	22,860	54,837
Uncertain tax positions	7,407	-	7,407	-	-
Capital leases - principal portion	15,605	2,683	5,745	3,770	3,407
Other commitments	499	64	128	128	179
OFF BALANCE SHEET:					
Interest on publicly-traded long-term debt and capital lease obligations	546,440	63,806	91,206	80,806	310,622
Operating leases ²	625,836	111,897	110,087	92,343	311,509
Royalty agreements ²	90,069	13,420	18,127	14,113	44,409
Purchase commitments - capital	94,074	94,029	45	-	-
Other commitments - energy and services	106,307	60,775	40,963	3,433	1,136
Total	\$ 3,320,340	\$ 562,318	\$ 594,505	\$ 680,265	\$ 1,483,252

¹ Qualified pension plan contributions beyond 2017 are not determinable at this time

² Represents future minimum payments

Notes A, G, I, J, L and N to the audited consolidated financial statements on pages 15 through 21; 23 through 25; 26 through 28; 28 through 32; 35; 36 and 37, respectively, contain additional information regarding these commitments and should be read in conjunction with the above table.

Contingent Liabilities and Commitments

The Corporation has a \$5 million short-term line of credit. No amounts were outstanding under this line of credit at December 31, 2016.

The Corporation has entered into standby letter of credit agreements relating to certain insurance claims, utilities and property improvements. At December 31, 2016, the Corporation had contingent liabilities guaranteeing its own performance under these outstanding letters of credit of \$45.4 million, of which \$2.5 million were issued under the Corporation's Revolving Facility. Certain of these underlying obligations are accrued on the Corporation's consolidated balance sheets.

In the normal course of business at December 31, 2016, the Corporation was contingently liable for \$381.5 million in surety bonds underwritten by Liberty Mutual and W.R. Berkley, which guarantee its own performance and are required by certain states and

municipalities and their related agencies. Certain of the bonds guaranteeing performance of obligations, including those for asset retirement requirements and insurance claims, are accrued on the Corporation's balance sheet. Five of these bonds are for certain construction contracts and reclamation obligations and total \$85.1 million, or 22% of all outstanding surety bonds. The Corporation has indemnified the underwriting insurance companies against any exposure under the surety bonds. In the Corporation's past experience, no material claims have been made against these financial instruments.

The Corporation is a co-borrower with an unconsolidated affiliate for a \$25.0 million revolving line of credit agreement with Branch Banking & Trust. The line of credit expires in February 2018. The affiliate has agreed to reimburse and indemnify the Corporation for any payments and expenses the Corporation may incur from this agreement. The Corporation holds a lien on the affiliate's membership interest in a joint venture as collateral for payment under the revolving line of credit.

Quantitative and Qualitative Disclosures about Market Risk

As discussed earlier, the Corporation's operations are highly dependent upon the interest rate-sensitive construction and steelmaking industries. Consequently, these marketplaces could experience lower levels of economic activity in an environment of rising interest rates or escalating costs (see section *Business Environment* on pages 54 through 70).

Management has considered the current economic environment and its potential impact to the Corporation's business. Demand for aggregates products, particularly in the infrastructure construction market, is affected by federal and state budget and deficit issues. Further, delays or cancellations of capital projects in the nonresidential and residential construction markets could occur if companies and consumers are unable to obtain financing for construction projects or if consumer confidence is eroded by economic uncertainty.

Demand in the residential construction market is affected by interest rates. The Federal Reserve increased the federal funds rate 25 basis points, but the rate remained at less than one percent for the year ended December 31, 2016. The residential construction market accounted for 21% of the Corporation's aggregates product line shipments in 2016.

Aside from these inherent risks from within its operations, the Corporation's earnings are also affected by changes in short-term interest rates. However, rising interest rates are not necessarily predictive of weaker operating results. Historically, the Corporation's profitability increased during periods of rising interest rates. In essence, the Corporation's underlying business generally serves as a natural hedge to rising interest rates.

Variable-Rate Borrowing Facilities

At December 31, 2016, the Corporation had a \$700 million Credit Agreement and a \$300 million Trade Receivable Facility. The Corporation also has \$300 million variable-rate senior notes. Borrowings under these facilities bear interest at a variable interest rate. A hypothetical 100-basis-point increase in interest rates on borrowings of \$640 million, which was the collective outstanding balance at December 31, 2016, would increase interest expense by \$6.4 million on an annual basis.

Pension Expense

The Corporation's results of operations are affected by its pension expense. Assumptions that affect pension expense include the discount rate and, for the defined benefit pension plans only, the expected long-term rate of return on assets. Therefore, the Corporation has interest rate risk associated with these factors. The impact of hypothetical changes in these assumptions on the Corporation's annual pension expense is discussed in the section *Critical Accounting Policies and Estimates – Pension Expense – Selection of Assumptions* on pages 74 through 76.

Energy Costs

Energy costs, including diesel fuel, natural gas, coal and liquid asphalt, represent significant production costs of the Corporation. The Magnesia Specialties and Cement businesses each have fixed price agreements covering 100% of their 2017 coal requirements. A hypothetical 10% change in the Corporation's energy prices in 2017 as compared with 2016, assuming constant volumes, would change 2017 energy expense by \$23.1 million.

Commodity Risk

Cement is a commodity and competition is based principally on price, which is highly sensitive to changes in supply and demand. Prices are often subject to material changes in response to relatively minor fluctuations in supply and demand, general economic conditions and other market conditions beyond the Corporation's control. Increases in the production capacity of industry participants or increases in cement imports tend to create an oversupply of such products leading to an imbalance between supply and demand, which can have a negative impact on product prices. There can be no assurance that prices for products sold will not decline in the future or that such declines will not have a material adverse effect on the Corporation's business, financial condition and results of operations. A hypothetical 10% change in sales price of the Texas Cement business would impact net sales by \$35.9 million. Cement is a key raw material in the production of ready mixed concrete. A hypothetical 10% change in cement costs in 2017 as compared with 2016, assuming constant volumes, would change ready mixed concrete cost of sales by \$22.6 million.

Forward-Looking Statements – Safe Harbor Provisions

If you are interested in Martin Marietta Materials, Inc. stock, management recommends that, at a minimum, you read the Corporation's current annual report and Forms 10-K, 10-Q and 8-K reports to the Securities and Exchange Commission (SEC) over the past year. The Corporation's recent proxy statement for the annual meeting of shareholders also contains important information. These and other materials that have been filed with the SEC are accessible through the Corporation's website at www.martinmarietta.com and are also available at the SEC's website at www.sec.gov. You may also write or call the Corporation's Corporate Secretary, who will provide copies of such reports.

Investors are cautioned that all statements in this Annual Report that relate to the future involve risks and uncertainties, and are based on assumptions that the Corporation believes in good faith are reasonable but which may be materially different from actual results. Forward-looking statements give the investor the Corporation's expectations or forecasts of future events. These statements can be identified by the fact that they do not relate only to historical or current facts. They may use words such as "anticipate," "expect," "should be," "believe," "will," and other words of similar meaning in connection with future events or future operating or financial performance. Any or all of the Corporation's forward-looking statements here and in other publications may turn out to be wrong.

Factors that the Corporation currently believes could cause actual results to differ materially from the forward-looking statements in this Annual Report include the performance of the United States economy and the resolution and impact of the debt ceiling and sequestration issues; widespread decline in aggregates pricing; the history of both cement and ready mixed concrete being subject to significant changes in supply, demand and price; the termination, capping and/or reduction or suspension of the federal and/or state gasoline tax(es) or other revenue related to infrastructure construction; the level and timing of federal and state transportation funding, most particularly in Texas, North Carolina, Iowa, Colorado and Georgia; the ability of states and/or other entities to finance approved projects either with tax revenues or alternative financing structures; levels of construction spending in the markets the Corporation serves; a reduction in defense spending, and the subsequent impact on construction activity on or near military bases; a decline in the commercial component of the nonresidential construction market, notably office and retail space; a further slowdown in energy-related construction activity, particularly in Texas; a slowdown in residential construction recovery; a reduction in construction activity and related shipments due to a decline in funding under the domestic farm bill; unfavorable weather conditions, particularly Atlantic Ocean hurricane activity, the late start to spring or the early onset of winter and the impact of a drought or excessive rainfall in the markets served by the Corporation; the volatility of fuel costs, particularly diesel fuel, and the impact on the cost of other consumables, namely steel, explosives, tires and conveyor belts, and with respect to the Magnesia Specialties business, natural gas; continued increases in the cost of other repair and supply parts; unexpected equipment failures, unscheduled maintenance, industrial accident or other prolonged and/or significant disruption to cement production facilities; increasing governmental regulation, including environmental laws; transportation availability, notably the availability of railcars and locomotive power to move trains to supply the Corporation's Texas, Florida and Gulf Coast markets; increased transportation costs, including increases from higher passed-through energy and other costs to comply with tightening regulations as well as higher volumes of rail and water shipments; availability of trucks and licensed drivers for transport of the Corporation's materials, particularly in areas with significant energy-related activity, such as Texas and

Forward-Looking Statements – Safe Harbor Provisions

Colorado; availability and cost of construction equipment in the United States; weakening in the steel industry markets served by the Corporation's dolomitic lime products; proper functioning of information technology and automated operating systems to manage or support operations; inflation and its effect on both production and interest costs; ability to successfully integrate acquisitions quickly and in a cost-effective manner and achieve anticipated profitability to maintain compliance with the Corporation's leverage ratio debt covenant; changes in tax laws, the interpretation of such laws and/or administrative practices that would increase the Corporation's tax rate; violation of the Corporation's debt covenant if price and/or volumes return to previous levels of instability; downward pressure on the Corporation's common stock price and its impact on goodwill impairment evaluations; reduction of the Corporation's credit rating to non-investment grade resulting from strategic acquisitions; and other risk factors listed from time to time found in the Corporation's filings with the SEC. Other factors besides those listed here may also adversely affect the Corporation, and may be material to the Corporation. The Corporation assumes no obligation to update any such forward-looking statements.

For a discussion identifying some important factors that could cause actual results to vary materially from those anticipated in the forward-looking statements, see the Corporation's SEC filings including, but not limited to, the discussion of "Competition" in the Corporation's Annual Report on Form 10-K, "Management's Discussion and Analysis of Financial Condition and Results of Operations" on pages 46 through 54 of the 2016 Annual Report and "Note A: Accounting Policies" and "Note N: Commitments and Contingencies" of the "Notes to Financial Statements" on pages 15 through 21 and 36 and 37, respectively, of the audited consolidated financial statements included in the 2016 Annual Report.

QUARTERLY PERFORMANCE
(unaudited)

(add 000, except per share and stock prices)

Quarter	Total Revenues		Net Sales		Gross Profit		Consolidated Net Earnings		Net Earnings Attributable to Martin Marietta	
	2016	2015	2016	2015	2016	2015	2016 ^{4,5}	2015 ^{2,3}	2016 ^{4,5}	2015 ^{2,3}
First	\$ 788,734	\$ 691,347	\$ 733,960	\$ 631,876	\$ 144,634	\$ 74,261	\$ 45,055	\$ 6,159	\$ 44,994	\$ 6,126
Second	977,298	921,419	915,436	850,249	246,701	200,153	122,113	81,979	122,052	81,938
Third	1,103,901	1,082,249	1,038,344	1,005,218	292,568	262,504	159,478	117,578	159,479	117,544
Fourth	948,816	844,555	889,027	780,773	225,063	184,849	98,798	83,222	98,861	83,184
Totals	\$ 3,818,749	\$ 3,539,570	\$ 3,576,767	\$ 3,268,116	\$ 908,966	\$ 721,767	\$ 425,444	\$ 288,938	\$ 425,386	\$ 288,792

Per Common Share

Quarter	Earnings				Dividends Paid		Stock Prices			
	Basic Earnings ¹		Diluted Earnings ¹		2016	2015	High	Low	High	Low
	2016 ^{4,5}	2015 ^{2,3}	2016 ^{4,5}	2015 ^{2,3}			2016	2015		
First	\$ 0.70	\$ 0.07	\$ 0.69	\$ 0.07	\$ 0.40	\$ 0.40	\$ 160.18	\$ 108.31	\$ 146.21	\$ 104.15
Second	\$ 1.91	\$ 1.23	\$ 1.90	\$ 1.22	0.40	0.40	\$ 193.87	\$ 156.35	\$ 155.98	\$ 134.10
Third	\$ 2.50	\$ 1.75	\$ 2.49	\$ 1.74	0.42	0.40	\$ 206.36	\$ 172.49	\$ 178.67	\$ 141.54
Fourth	\$ 1.56	\$ 1.27	\$ 1.55	\$ 1.26	0.42	0.40	\$ 236.41	\$ 167.06	\$ 166.23	\$ 136.20
Full Year	\$ 6.66	\$ 4.31	\$ 6.63	\$ 4.29	\$ 1.64	\$ 1.60				

¹ The sum of per-share earnings by quarter may not equal earnings per share for the year due to changes in average share calculations. This is in accordance with prescribed reporting requirements.

² Consolidated net earnings, net earnings attributable to Martin Marietta, and basic and diluted earnings per common share in the third quarter of 2015 were decreased \$16.9 million, or \$0.30 per basic and diluted share, due to the impact from the sale of the California cement business and related expenses, inclusive of the impact of a valuation allowance for certain net operating loss carry forwards.

³ Consolidated net earnings, net earnings attributable to Martin Marietta, and basic and diluted earnings per common share in the fourth quarter of 2015 were increased by \$6.7 million, or \$0.10 per basic and diluted share, as a result of the gain on the sale of the San Antonio asphalt operations.

⁴ Consolidated net earnings, net earnings attributable to Martin Marietta, and basic and diluted earnings per common share in the fourth quarter of 2016 were reduced by \$7.5 million, or \$0.12 per basic and diluted share, as a result of increased performance-based compensation expense.

⁵ Consolidated net earnings, net earnings attributable to Martin Marietta, and basic and diluted earnings per common share for the full year 2016 were reduced by \$8.8 million, or \$0.14 per basic and diluted share, as a result of increased performance-based compensation expense.

At February 15, 2017, there were 982 shareholders of record.

FIVE YEAR SELECTED FINANCIAL DATA

(add 000, except per share)

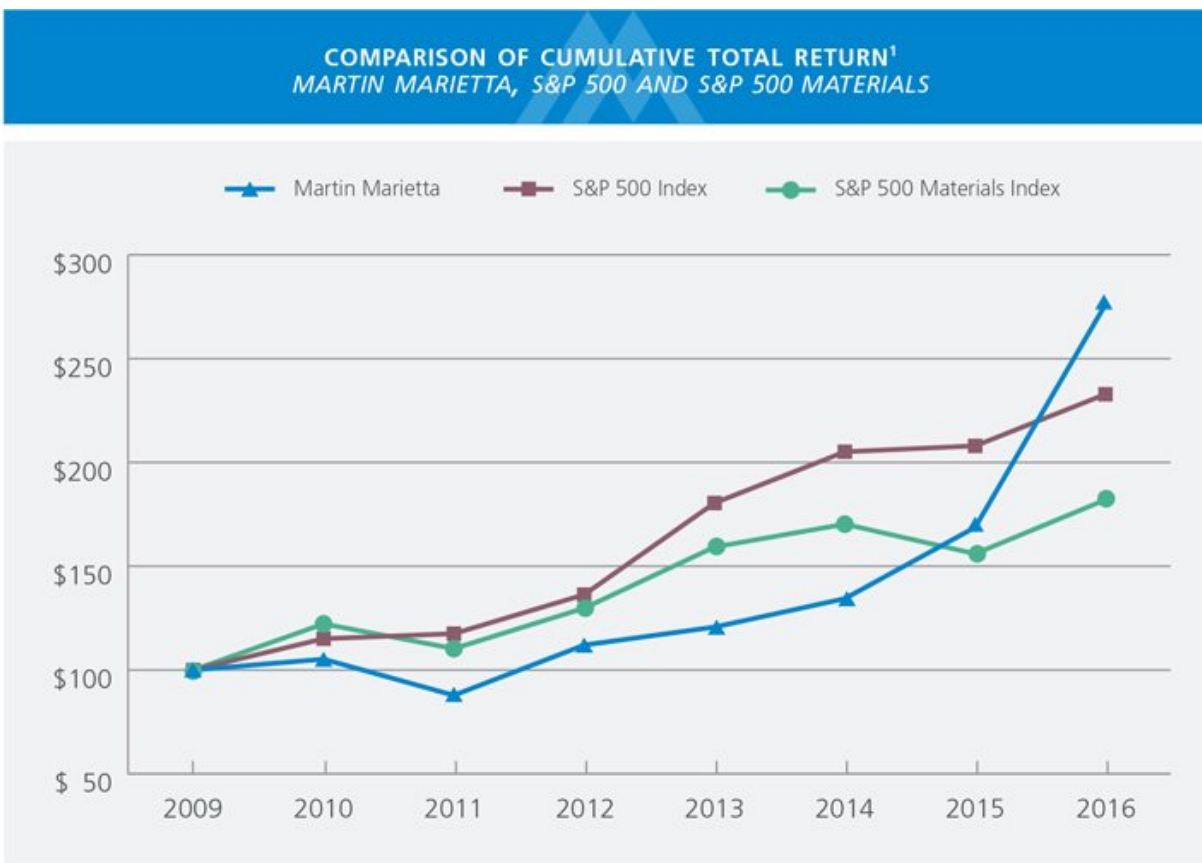
	2016	2015	2014	2013	2012
Consolidated Operating Results ¹					
Net sales	\$ 3,576,767	\$ 3,268,116	\$ 2,679,095	\$ 1,943,218	\$ 1,832,957
Freight and delivery revenues	241,982	271,454	278,856	212,333	198,944
Total revenues	3,818,749	3,539,570	2,957,951	2,155,551	2,031,901
Cost of sales	2,667,801	2,546,349	2,156,735	1,579,261	1,505,823
Freight and delivery costs	241,982	271,454	278,856	212,333	198,944
Total cost of revenues	2,909,783	2,817,803	2,435,591	1,791,594	1,704,767
Gross Profit	908,966	721,767	522,360	363,957	327,134
Selling, general and administrative expenses	248,005	218,234	169,245	150,091	138,398
Acquisition-related expenses, net	1,683	8,464	42,891	671	35,140
Other operating (income) and expenses, net	(8,043)	15,653	(4,649)	(4,793)	(2,574)
Earnings from Operations	667,321	479,416	314,873	217,988	156,170
Interest expense	81,677	76,287	66,057	53,467	53,339
Other nonoperating (income) and expenses, net	(21,384)	(10,672)	(362)	295	(1,299)
Earnings from continuing operations before taxes on income	607,028	413,801	249,178	164,226	104,130
Taxes on income	181,584	124,863	94,847	44,045	17,431
Earnings from Continuing Operations	425,444	288,938	154,331	120,181	86,699
Discontinued operations, net of taxes	—	—	(37)	(749)	(1,172)
Consolidated net earnings	425,444	288,938	154,294	119,432	85,527
Less: Net earnings (loss) attributable to noncontrolling interests	58	146	(1,307)	(1,905)	1,053
Net Earnings Attributable to Martin Marietta	\$ 425,386	\$ 288,792	\$ 155,601	\$ 121,337	\$ 84,474
Basic Earnings Attributable to Martin Marietta Per Common Share (see Note A):					
Earnings from continuing operations attributable to common shareholders ¹	\$ 6.66	\$ 4.31	\$ 2.73	\$ 2.64	\$ 1.86
Discontinued operations attributable to common shareholders ¹	—	—	—	(0.02)	(0.03)
Basic Earnings Per Common Share	\$ 6.66	\$ 4.31	\$ 2.73	\$ 2.62	\$ 1.83
Diluted Earnings Attributable to Martin Marietta Per Common Share (see Note A):					
Earnings from continuing operations attributable to common shareholders ¹	\$ 6.63	\$ 4.29	\$ 2.71	\$ 2.63	\$ 1.86
Discontinued operations attributable to common shareholders ¹	—	—	—	(0.02)	(0.03)
Diluted Earnings Per Common Share	\$ 6.63	\$ 4.29	\$ 2.71	\$ 2.61	\$ 1.83
Cash Dividends Per Common Share	\$ 1.64	\$ 1.60	\$ 1.60	\$ 1.60	\$ 1.60
Condensed Consolidated Balance Sheet Data					
Total current assets ²	\$ 1,086,385	\$ 1,081,635	\$ 1,043,646	\$ 680,080	\$ 621,643
Property, plant and equipment, net	3,423,395	3,156,000	3,402,770	1,799,241	1,753,241
Goodwill	2,159,337	2,068,235	2,068,799	616,621	616,204
Other intangibles, net	511,312	510,552	595,205	48,591	50,433
Other noncurrent assets ²	120,476	141,189	104,097	36,738	37,720
Total Assets	\$ 7,300,905	\$ 6,957,611	\$ 7,214,517	\$ 3,181,271	\$ 3,079,241
Current liabilities – other	\$ 366,552	\$ 347,945	\$ 382,312	\$ 198,146	\$ 167,659
Current maturities of long-term debt ²	180,036	18,713	13,803	11,938	4,634
Long-term debt ²	1,506,153	1,550,061	1,566,355	1,015,249	1,039,256
Pension, postretirement and postemployment benefits, noncurrent	248,086	224,538	249,333	78,489	183,122
Deferred income taxes, net	663,019	583,459	489,945	205,178	147,876
Other noncurrent liabilities	194,469	172,718	160,021	97,352	86,395
Shareholders' equity	4,139,978	4,057,284	4,351,166	1,537,877	1,410,545
Noncontrolling interests	2,612	2,893	1,582	37,042	39,754
Total Liabilities and Equity	\$ 7,300,905	\$ 6,957,611	\$ 7,214,517	\$ 3,181,271	\$ 3,079,241

¹ Amounts for 2013 and 2012 may not equal amounts reported in the Corporation's prior years' Forms 10-K as amounts have been recast to reflect discontinued operations.

² Balance sheets reflect the adoption of Accounting Standards Update 2015-03, *Simplifying the Presentation of Debt Issuance Costs*.

COMMON STOCK PERFORMANCE GRAPH

The following graph compares the performance of the Corporation's common stock to that of the Standard and Poor's ("S&P") 500 Index and the S&P 500 Materials Index.



Cumulative Total Return¹
 (as of December 31)

	2009	2010	2011	2012	2013	2014	2015	2016
Martin Marietta	\$100.00	\$105.20	\$ 87.78	\$112.01	\$120.65	\$134.38	\$168.74	\$276.17
S&P 500 Index	\$100.00	\$115.06	\$117.49	\$136.30	\$180.44	\$205.14	\$207.98	\$232.85
S&P 500 Materials Index	\$100.00	\$122.20	\$110.29	\$126.79	\$159.25	\$170.26	\$155.99	\$182.02

¹ Assumes that the investment in the Corporation's common stock and each index was \$100, with quarterly reinvestment of dividends.

SUBSIDIARIES OF MARTIN MARIETTA MATERIALS, INC.

AS OF JANUARY 31, 2017

<u>Name of Subsidiary</u>	<u>Percent Owned</u>
Alamo Gulf Coast Railroad Company, a Texas corporation	99.5% ¹
Alamo North Texas Railroad Company, a Texas corporation	99.5% ²
American Aggregates Corporation, a North Carolina corporation	100%
American Materials Technologies, LLC, a Tennessee limited liability company	100% ³
American Stone Company, a North Carolina corporation	50% ⁴
Bahama Rock Limited, a Bahamas corporation	100%
Brookhollow of Alexandria, Inc., a Louisiana corporation	100% ⁵
Brookhollow Corporation, a Delaware corporation	100% ⁶
Brook Hollow Properties, Inc., a Texas corporation	100% ⁷
Brookhollow of Virginia, Inc., a Virginia corporation	100% ⁸
California Natural Aggregates, Inc., a California corporation	100% ⁹
Campbell's C-Ment Contracting, Inc., a Colorado corporation	100% ¹⁰
CIG MC LLC, a Colorado limited liability company	100%

- ¹ Alamo Gulf Coast Railroad Company is owned by Martin Marietta Materials Southwest, LLC, (99.5%) and certain individuals (0.5%).
- ² Alamo North Texas Railroad Company is owned by Martin Marietta Materials Southwest, LLC, (99.5%) and certain individuals (0.5%).
- ³ American Materials Technologies, LLC is a wholly owned subsidiary of Meridian Aggregates Company, a Limited Partnership.
- ⁴ Martin Marietta Materials, Inc. owns a 50% interest in American Stone Company.
- ⁵ Brookhollow of Alexandria, Inc. is a wholly owned subsidiary of Brookhollow Corporation.
- ⁶ Brookhollow Corporation is a wholly owned subsidiary of Texas Industries, Inc.
- ⁷ Brook Hollow Properties, Inc. is a wholly owned subsidiary of Brookhollow Corporation.
- ⁸ Brookhollow of Virginia is a wholly owned subsidiary of Brookhollow Corporation.
- ⁹ California Natural Aggregates, Inc. is a wholly owned subsidiary of Texas Industries, Inc.
- ¹⁰ Campbell's C-Ment Contracting, Inc. is a wholly-owned subsidiary of Suburban Acquisition Company.

Creole Corporation, a Delaware corporation	100%	11
FRI Ready Mix of Tennessee, LLC, a Florida limited liability company	100%	12
Front Range Aggregates LLC, a Delaware limited liability company	100%	
Granite Canyon Quarry, a Wyoming joint venture	100%	13
Harding Street Corporation, a North Carolina corporation	100%	
HSMMLLC, a North Carolina limited liability company	100%	
Martin Marietta Composites, Inc., a Delaware corporation	100%	
Martin Marietta Fleet Management LLC, a North Carolina limited liability company	100%	14
Martin Marietta Funding LLC, a Delaware limited liability company	100%	
Martin Marietta Inc., a North Carolina corporation	100%	
Martin Marietta Kansas City, LLC, a Delaware limited liability company	100%	15
Martin Marietta Magnesia Specialties, LLC, a Delaware limited liability company	100%	
Martin Marietta Materials Canada Limited, a Nova Scotia, Canada corporation	100%	
Martin Marietta Materials of Missouri, Inc., a Delaware corporation	100%	
Martin Marietta Materials Real Estate Investments, Inc., a North Carolina corporation	100%	
Martin Marietta Materials Southwest, LLC, a Texas limited liability company	100%	16
Material Producers, Inc., an Oklahoma corporation	100%	17
Meridian Aggregates Company, a Limited Partnership, a North Carolina limited partnership	100%	18

11 Creole Corporation is a wholly owned subsidiary of Texas Industries, Inc.

12 FRI Ready Mix of Tennessee, LLC is a wholly owned subsidiary of American Materials Technologies, LLC.

13 Granite Canyon Quarry is owned 51% by Meridian Granite Company and 49% by Martin Marietta Materials Real Estate Investments, Inc.

14 Martin Marietta Fleet Management LLC, is a wholly owned subsidiary of Martin Marietta Materials Southwest, LLC

15 Martin Marietta Kansas City, LLC is owned 95% by Martin Marietta Materials, Inc. and 5% by Martin Marietta Materials of Missouri, Inc.

16 Martin Marietta Materials Southwest, LLC is a wholly owned subsidiary of Texas Industries, Inc.

17 Material Producers, Inc. is a wholly owned subsidiary of Martin Marietta Materials Southwest, LLC

18 Meridian Aggregates Company, a Limited Partnership, is owned 98% by Meridian Aggregates Investments, LLC. The remaining 2% is owned by Martin Marietta Materials, Inc.

Meridian Aggregates Company Northwest, LLC, a North Carolina limited liability company	100%	19
Meridian Aggregates Company Southwest, LLC, a North Carolina limited liability company	100%	20
Meridian Aggregates Investments, LLC, a North Carolina limited liability company	100%	21
Meridian Granite Company, a North Carolina corporation	100%	22
Mid South-Weaver Joint Venture, a North Carolina joint venture	50%	23
Mid-State Construction & Materials, Inc., an Arkansas corporation	100%	
MTD Pipeline LLC, a Delaware limited liability company	50%	24
Partin Limestone Products, Inc., a California corporation	100%	25
Powderly Transportation, Inc., a North Carolina corporation	100%	26
R&S Sand & Gravel, LLC, a North Carolina limited liability company	100%	27
Ratliff Mix Management, LLC, a Texas limited liability company	100%	28
Ratliff Ready-Mix, LP, a Texas limited partnership	100%	29
Riverside Cement Company, a California partnership	100%	30
Riverside Cement Holdings Company, a Delaware corporation	100%	31
Rock & Rail LLC, a Colorado limited liability company	100%	

- 19 Martin Marietta Materials, Inc is the sole member of Meridian Aggregates Company Northwest, LLC.
- 20 Martin Marietta Materials Southwest, LLC is the sole member of Meridian Aggregates Company Southwest, LLC.
- 21 Meridian Aggregates Investments, LLC is owned 99% by Martin Marietta Materials, Inc. and 1% by Martin Marietta Materials Real Estate Investments, Inc.
- 22 Meridian Granite Company is a wholly owned subsidiary of Meridian Aggregates Company, a Limited Partnership.
- 23 Mid South-Weaver Joint Venture is owned 50% by Martin Marietta Materials, Inc.
- 24 Martin Marietta Magnesia Specialties, LLC, a wholly owned subsidiary of Martin Marietta Materials, Inc., owns a 50% interest in MTD Pipeline LLC.
- 25 Partin Limestone Products, Inc. is a wholly owned subsidiary of Riverside Cement Company.
- 26 Powderly Transportation, Inc. is a wholly owned subsidiary of Meridian Aggregates Company, a Limited Partnership.
- 27 Martin Marietta Materials, Inc. is the manager of and owns a 90% interest in R&S Sand & Gravel, LLC. The other 10% is owned by Harding Street Corporation, a wholly owned subsidiary of Martin Marietta Materials, Inc.
- 28 Ratliff Mix Management, LLC is a wholly owned subsidiary of TXI Operations, LP.
- 29 Ratliff Ready-Mix, LP is owned 99% by TXI Operations, LP and 1% by Ratliff Mix Management, LLC.
- 30 Riverside Cement Company is owned 49% by TXI California, Inc. and 51% by TXI Riverside Inc.
- 31 Riverside Cement Holdings Company is a wholly owned subsidiary of Riverside Cement Company.

Rocky Mountain Materials and Asphalt, Inc., a Colorado corporation	100%
Rocky Mountain Premix, Inc., a Colorado corporation	100%
Rocky Mountain Ready Mix Concrete, Inc., a Colorado corporation	100% 32
Royal Gorge Express, LLC, a Colorado Limited Liability Company	50% 33
Southwestern Financial Corporation, a Texas Corporation	100% 34
Suburban Acquisition Company, a Colorado corporation	100%
Texas Industries Holdings, LLC, a Delaware limited liability company	100% 35
Texas Industries, Inc., a Delaware corporation	100%
Texas Industries Trust, a Delaware trust	100% 36
Theodore Holding, LLC, a Delaware limited liability company	60.7% 37
TXI Aviation, Inc. dba TXI Retail, a Texas corporation	100% 38
TXI California Inc., a Delaware corporation	100% 39
TXI Cement Company, a Delaware corporation	100% 40
TXI LLC, a Delaware limited liability company	100% 41
TXI Operating Trust, a Delaware trust	100% 42
TXI Operations, LP, a Delaware limited partnership	100% 43
TXI Power Company, a Texas corporation	100% 44

- 32 Rocky Mountain Ready Mix Concrete, Inc. is a wholly owned subsidiary of Campbell's C-Ment Contracting, Inc.
- 33 Rock & Rail LLC, a wholly owned subsidiary of Martin Marietta Materials, Inc., owns a 50% interest in Royal Gorge Express, LLC
- 34 Southwestern Financial Corporation is a wholly owned subsidiary of TXI Operations, LP.
- 35 Texas Industries Holdings, LLC is a wholly owned subsidiary of Texas Industries, Inc.
- 36 Texas Industries Trust is owned 100% by Texas Industries Holdings, LLC.
- 37 Martin Marietta Materials, Inc. is the manager of and owns a 60.7% interest in Theodore Holdings, LLC.
- 38 TXI Aviation, Inc. is a wholly owned subsidiary of Texas Industries, Inc.
- 39 TXI California Inc. is a wholly owned subsidiary of Texas Industries, Inc.
- 40 TXI Cement Company is a wholly owned subsidiary of Texas Industries, Inc.
- 41 TXI, LLC is a wholly owned subsidiary of Texas Industries, Inc.
- 42 TXI Operating Trust is owned 100% by TXI LLC.
- 43 TXI Operations, LP is owned 99% by Texas Industries Trust and owned 1% by TXI Operating Trust.
- 44 TXI Power Company is a wholly owned subsidiary of Texas Industries, Inc.

TXI Riverside Inc., a Delaware corporation	100%	45
TXI Transportation Company, a Texas corporation	100%	46
Valley Stone LLC, a Virginia limited liability company	50%	47

45 TXI Riverside Inc. is a wholly owned subsidiary of Texas Industries, Inc.

46 TXI Transportation Company is a wholly owned subsidiary of Texas Industries, Inc.

47 Martin Marietta Materials, Inc. is the manager of and owns a 50% interest in Valley Stone LLC.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (No. 333-115918, 333-85608, 333-83516, 333-15429, 333-211735, and 333-1972011) of Martin Marietta Materials, Inc. of our report dated February 24, 2017 relating to the financial statements and the effectiveness of internal control over financial reporting, which appears in the Annual Report to Shareholders, which is incorporated in this Annual Report on Form 10 K. We also consent to the incorporation by reference of our report dated February 24, 2017 relating to the financial statement schedule, which appears in this Form 10 K.

/s/ PricewaterhouseCoopers LLP
Raleigh, North Carolina
February 24, 2017

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Annual Report (Form 10-K) of Martin Marietta Materials, Inc. of our report dated February 23, 2016, with respect to the consolidated financial statements of Martin Marietta Materials, Inc., included in the 2016 Annual Report to Shareholders of Martin Marietta Materials, Inc.

Our audits also included the financial statement schedule for the years ended December 31, 2015 and 2014 of Martin Marietta Materials, Inc. listed in Item 15(a). This schedule is the responsibility of Martin Marietta Materials, Inc.'s management. Our responsibility is to express an opinion based on our audits. In our opinion, as to which the date is February 23, 2016, the financial statement schedule referred to above, when considered in relation to the basic financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

We also consent to the incorporation by reference in the following Registration Statements:

- 1) Registration Statement (Form S-8 No. 333-115918) pertaining to the Amended and Restated Martin Marietta Materials, Inc. Common Stock Purchase Plan for Directors, Martin Marietta Materials, Inc., Performance Sharing Plan and the Martin Marietta Materials, Inc. Savings and Investment Plan for Hourly Employees,
- 2) Registration Statement (Form S-8 No. 333-85608) pertaining to the Martin Marietta Materials, Inc. Common Stock Purchase Plan for Directors,
- 3) Registration Statement (Form S-8 No. 33-83516) pertaining to the Martin Marietta Materials, Inc. Omnibus Securities Award Plan, as amended,
- 4) Registration Statement (Form S-8 No. 333-15429) pertaining to the Martin Marietta Materials, Inc. Common Stock Purchase Plan for Directors, Martin Marietta Materials, Inc. Performance Sharing Plan, and the Martin Marietta Materials, Inc. Savings and Investment Plan for Hourly Employees,
- 5) Registration Statement (Form S-8 No. 333-211735) pertaining to the Martin Marietta Amended and Restated Stock-Based Award Plan; and
- 6) Registration Statement (Form S-8 No. 333-197201) pertaining to the Texas Industries, Inc. 2004 Omnibus Equity Compensation Plan and the Texas Industries, Inc. Management Deferred Compensation Plan, as assumed by Martin Marietta Materials, Inc.

of our report dated February 23, 2016, with respect to the consolidated financial statements of Martin Marietta Materials, Inc. incorporated by reference in this Annual Report (Form 10-K), and our report included in the preceding paragraph with respect to the financial statement schedule of Martin Marietta Materials, Inc. included in this Annual Report (Form 10-K) of Martin Marietta Materials, Inc. for the year ended December 31, 2016.

/s/ Ernst & Young LLP
Raleigh, North Carolina
February 24, 2017

CERTIFICATION PURSUANT TO SECURITIES AND EXCHANGE ACT OF 1934

RULE 13a-14 AS ADOPTED PURSUANT TO SECTION 302 OF THE

SARBANES-OXLEY ACT OF 2002

CERTIFICATIONS

I, C. Howard Nye, certify that:

1. I have reviewed this Form 10-K of Martin Marietta Materials, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

-
- (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
- (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 24, 2017

By: /s/ C. Howard Nye
C. Howard Nye
Chairman, President and
Chief Executive Officer

CERTIFICATION PURSUANT TO SECURITIES AND EXCHANGE ACT OF 1934

RULE 13a-14 AS ADOPTED PURSUANT TO SECTION 302 OF THE

SARBANES-OXLEY ACT OF 2002

CERTIFICATIONS

I, Anne H. Lloyd, certify that:

1. I have reviewed this Form 10-K of Martin Marietta Materials, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

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- (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
- (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 24, 2017

By: /s/ Anne H. Lloyd
Anne H. Lloyd
Executive Vice President and
Chief Financial Officer

**WRITTEN STATEMENT PURSUANT TO 18 U.S.C. 1350,
AS ADOPTED PURSUANT TO SECTION 906 OF THE
SARBANES-OXLEY ACT OF 2002**

In connection with the 2016 Annual Report on Form 10-K (the "Report") of Martin Marietta Materials, Inc. (the "Registrant"), as filed with the Securities and Exchange Commission, I, C. Howard Nye, the Chief Executive Officer of the Registrant, certify that:

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

/s/ C. Howard Nye
C. Howard Nye
Chief Executive Officer

Date: February 24, 2017

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

**WRITTEN STATEMENT PURSUANT TO 18 U.S.C. 1350,
AS ADOPTED PURSUANT TO SECTION 906 OF THE
SARBANES-OXLEY ACT OF 2002**

In connection with the 2016 Annual Report on Form 10-K (the "Report") of Martin Marietta Materials, Inc. (the "Registrant"), as filed with the Securities and Exchange Commission, I, Anne H. Lloyd, the Chief Financial Officer of the Registrant, certify that:

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

/s/ Anne H. Lloyd

Anne H. Lloyd
Chief Financial Officer

Date: February 24, 2017

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

MINE SAFETY DISCLOSURE EXHIBIT

The operation of the Company's U.S. aggregate quarries and mines (including the mining operations of the Cement business) is subject to regulation by the federal Mine Safety and Health Administration (MSHA) under the Federal Mine Safety and Health Act of 1977 (the "Mine Act"). MSHA inspects the Company's quarries and mines (and cement plants) on a regular basis and issues various citations and orders when it believes a violation has occurred under the Mine Act. Whenever MSHA issues a citation or order, it also generally proposes a civil penalty, or fine, related to the alleged violation. Citations or orders can be contested and appealed, and as part of that process, are often reduced in severity and amount, and are sometimes dismissed.

Under the Dodd-Frank Wall Street Reform and Consumer Protection Act (the Dodd-Frank Act), the Company is required to present information regarding certain mining safety and health citations which MSHA has issued with respect to its aggregates mining operations in its periodic reports filed with the Securities and Exchange Commission (the "SEC"). In evaluating this information, consideration should be given to factors such as: (i) the number of citations and orders will vary depending on the size of the quarry or mine and type of operations (underground or surface), (ii) the number of citations issued will vary from inspector to inspector and location to location, and (iii) citations and orders can be contested and appealed, and in that process, may be reduced in severity and amount, and are sometimes dismissed.

We have provided information below in response to the rules and regulations of the SEC issued under Section 1503(a) of the Dodd-Frank Act. The disclosures reflect U.S. mining operations only, as the requirements of the Dodd-Frank Act and the SEC rules and regulations thereunder do not apply to our quarries and mines operated outside the United States.

The Company presents the following items regarding certain mining safety and health matters for the year ended December 31, 2016 (Appendix 1):

- Total number of violations of mandatory health or safety standards that could significantly and substantially contribute to the cause and effect of a mine safety or health hazard under section 104 of the Mine Act for which the Company received a citation from MSHA (hereinafter, "Section 104 S&S Citations"). If MSHA determines that a violation of a mandatory health or safety standard is reasonably likely to result in a reasonably serious injury or illness under the unique circumstance contributed to by the violation, MSHA will classify the violation as a "significant and substantial" violation (commonly referred to as a "S&S" violation). MSHA inspectors will classify each citation or order written as a "S&S" violation or not.
- Total number of orders issued under section 104(b) of the Mine Act (hereinafter, "Section 104(b) Orders"). These orders are issued for situations in which MSHA determines a previous violation covered by a Section 104(a) citation has not been totally abated within the prescribed time period, so a further order is needed to require the mine operator to immediately withdraw all persons (except certain authorized persons) from the affected area of a quarry or mine.

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- Total number of citations and orders for unwarrantable failure of the mine operator to comply with mandatory health or safety standards under Section 104(d) of the Mine Act (hereinafter, “Section 104(d) Citations and Orders”). These violations are similar to those described above, but the standard is that the violation could significantly and substantially contribute to the cause and effect of a safety or health hazard, but the conditions do not cause imminent danger, and the MSHA inspector finds that the violation is caused by an unwarranted failure of the operator to comply with the health and safety standards.
 - Total number of flagrant violations under section 110(b)(2) of the Mine Act (hereinafter, “Section 110(b)(2) Violations”). These violations are penalty violations issued if MSHA determines that violations are “flagrant”, for which civil penalties may be assessed. A “flagrant” violation means a reckless or repeated failure to make reasonable efforts to eliminate a known violation of a mandatory health or safety standard that substantially and proximately caused, or reasonably could have been expected to cause, death or serious bodily injury.
 - Total number of imminent danger orders issued under section 107(a) of the Mine Act (hereinafter, “Section 107(a) Orders”). These orders are issued for situations in which MSHA determines an imminent danger exists in the quarry or mine and results in orders of immediate withdrawal of all persons (except certain authorized persons) from the area of the quarry or mine affected by its condition until the imminent danger and the underlying conditions causing the imminent danger no longer exist.
 - Total Dollar Value of MSHA Assessments Proposed. These are the amounts of proposed assessments issued by MSHA with each citation or order for the time period covered by the report. Penalties are assessed by MSHA according to a formula that considers a number of factors, including the mine operator’s history, size, negligence, gravity of the violation, good faith in trying to correct the violation promptly, and the effect of the penalty on the operator’s ability to continue in business.
 - Total Number of Mining-Related Fatalities. Mines subject to the Mine Act are required to report all fatalities occurring at their facilities unless the fatality is determined to be “non-chargeable” to the mining industry. The final rules of the SEC require disclosure of mining-related fatalities at mines subject to the Mine Act. Only fatalities determined by MSHA not to be mining-related may be excluded.
 - Receipt of written notice from MSHA of a pattern (or a potential to have such a pattern) of violations of mandatory health or safety standards that are of such nature as could have significantly and substantially contributed to the cause and effect of other mine health or safety hazards under section 104(e) of the Mine Act. If MSHA determines that a mine has a “pattern” of these types of violations, or the potential to have such a pattern, MSHA is required to notify the mine operator of the existence of such a thing.

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- Legal Actions Pending as of the Last Day of Period.
 - Legal Actions Initiated During Period.
 - Legal Actions Resolved During Period.

The Federal Mine Safety and Health Review Commission (the “Commission”) is an independent adjudicative agency that provides administrative trial and appellate review of legal disputes arising under the Mine Act. The cases may involve, among other questions, challenges by operators to citations, orders and penalties they have received from MSHA, or complaints of discrimination by miners under Section 105 of the Mine Act. Appendix 1 shows, for each of the Company’s quarries and mines identified, as of December 31, 2016, the number of legal actions pending before the Commission, along with the number of legal actions initiated before the Commission during the year as well as resolved during the year. In addition, Appendix 1 includes a footnote to the column for legal actions before the Commission pending as of the last day of the period, which footnote breaks down that total number of legal actions pending by categories according to the type of proceeding in accordance with various categories established by the Procedural Rules of the Commission.

Appendix 1 attached

Appendix 1*

Location	MSHA ID	Section 104 S&S Citations (#)	Section 104(b) Orders (#)	Section 104(d) Citations and Orders (#)	Section 110(b)(2) Violations (#)	Section 107(a) Orders (#)	Total Dollar Value of MSHA Assessment/ \$ Proposed	Total Number of Mining Related Fatalities (#)	Received Notice of Violation Under Section 104(e) (yes/no)	Received Notice of Potential to have Pattern under Section 104(e) (yes/no)	Legal Actions Pending as of Last Day of Period (#)*	Legal Actions Instituted During Period (#)	Legal Actions Resolved During Period (#)
Alexander Quarry	BN5	0	0	0	0	0	\$ 0	0	no	no	0	0	0
American Stone Quarry	3100189	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Anderson Creek	4402963	1	0	0	0	0	\$ 1,036	0	no	no	0	0	0
Arrowood Quarry	3100059	2	0	0	0	0	\$ 1,797	0	no	no	0	0	0
Asheboro Quarry	3100066	1	0	0	0	0	\$ 263	0	no	no	0	0	0
Bakers Quarry	3100071	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Belgrade Quarry	3100064	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Benson Quarry	3101979	1	0	0	0	0	\$ 390	0	no	no	0	0	0
Berkeley Quarry	3800072	0	0	0	0	0	\$ 200	0	no	no	0	0	0
Bessemer City Quarry	3101105	0	0	0	0	0	\$ 114	0	no	no	0	0	0
Black Ankle Quarry	3102220	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Bonds Gravel Pit	3101963	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Boonsboro Quarry	1800024	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Burlington Quarry	3100042	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Caldwell Quarry	3101869	0	0	0	0	0	\$ 114	0	no	no	0	0	0
Castle Hayne Quarry	3100063	0	0	0	0	0	\$ 100	0	no	no	0	0	0
Cayce Quarry	3800016	1	0	0	0	0	\$ 308	0	no	no	0	0	0
Central Rock Quarry	3100050	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Charlotte Quarry	3100057	0	0	0	0	0	\$ 114	0	no	no	0	0	0
Clarks Quarry	3102009	0	0	0	0	0	\$ 150	0	no	no	0	0	0
Cumberland Quarry	3102237	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Denver	3101971	1	0	0	0	0	\$ 534	0	no	no	0	0	0
Doswell Quarry	4400045	2	0	0	0	0	\$ 1,947	0	no	no	2	2	0

East Alamance	3102021	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Fountain Quarry	3100065	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Franklin Quarry	3102130	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Fuquay Quarry	3102055	0	0	0	0	0	\$ 217	0	no	no	0	0	0
Garner Quarry	3100072	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Georgetown II Quarry	3800525	1	0	0	0	0	\$ 480	0	no	no	0	0	0
Hickory Quarry	3100043	0	0	0	0	0	\$ 257	0	no	no	0	0	0
Hicone Quarry	3102088	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Jamestown Quarry	3100051	0	0	0	0	0	\$ 114	0	no	no	0	0	0
Kannapolis Quarry	3100070	0	0	0	0	0	\$ 334	0	no	no	0	0	0
Kings Mountain Quarry	3100047	0	0	0	0	0	\$ 373	0	no	no	0	0	0
Lemon Springs Quarry	3101104	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Loamy Sand and Gravel	3800721	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Maiden Quarry	3102125	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Mallard Creek Quarry	3102006	0	0	0	0	0	\$ 781	0	no	no	0	0	0
Matthews Quarry	3102084	1	0	0	0	0	\$ 2,965	0	no	no	0	0	0
Midlothian Quarry	4403767	0	0	0	0	0	\$ 0	0	no	no	0	0	0
North Columbia Quarry	3800146	0	0	0	0	0	\$ 485	0	no	no	0	0	0
Onslow Quarry	3102120	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Pinesburg	1800021	0	0	0	0	0	\$ 100	0	no	no	0	0	0
Pomona Quarry	3100052	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Raleigh Durham Quarry	3101941	1	0	0	0	0	\$ 290	0	no	no	0	0	0
Red Hill Quarry	4400072	2	0	0	0	0	\$ 1,610	0	no	no	0	0	0
Reidsville Quarry	3100068	0	0	0	0	0	\$ 114	0	no	no	0	0	0
Rock Hill Quarry	3800026	0	0	0	0	0	\$ 513	0	no	no	0	0	2
Rocky Point Quarry	3101956	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Salem Stone Company	3102038	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Statesville Quarry	3100055	1	0	0	0	0	\$ 1,366	0	no	no	0	0	0
Thomasville Quarry	3101475	1	0	0	0	0	\$ 324	0	no	no	0	0	0
Wilmington Sand	3101308	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Woodleaf Quarry	3100069	1	0	0	0	0	\$ 822	0	no	no	0	0	0
(45) North Indianapolis SURFACE	1200002	0	0	0	0	0	\$ 200	0	no	no	0	0	0

Apple Grove	3301676	1	0	0	0	0	\$ 528	0	no	no	0	0	0
Belmont Sand	1201911	0	0	0	0	0	\$ 100	0	no	no	0	0	0
Burning Springs	4608862	5	0	0	0	0	\$ 2,108	0	no	no	0	0	0
Carmel SandG	1202124	1	0	0	0	0	\$ 1,008	0	no	no	0	0	0
Cedarville	3304072	0	0	0	0	0	\$ 214	0	no	no	0	0	0
Cloverdale	1201744	0	0	0	0	0	\$ 228	0	no	no	0	0	0
Cook Road	3304534	0	0	0	0	0	\$ 0	0	no	no	0	0	0
E-Town SandG	3304279	0	0	0	0	0	\$ 114	0	no	no	0	0	0
Fairfield	3301396	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Franklin Gravel	3302940	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Kentucky Ave Mine	1201762	4	0	0	0	0	\$ 9,250	0	no	no	2	2	3
Kokomo Mine	1202105	0	0	0	0	0	\$ 563	0	no	no	0	0	0
Kokomo Sand	1202203	0	0	0	0	0	\$ 114	0	no	no	0	0	0
Kokomo Stone	1200142	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Noblesville SandG	1201994	0	0	0	0	0	\$ 714	0	no	no	0	0	0
Noblesville Stone	1202176	5	1	0	0	0	\$ 6,435	0	no	no	2	2	1
North Indianapolis	1201993	3	1	0	0	0	\$ 4,316	0	no	no	3	3	1
Petersburg	1516895	0	0	0	0	0	\$ 228	0	no	no	0	0	0
Phillipsburg	3300006	0	0	0	0	0	\$ 231	0	no	no	0	0	0
Shamrock SG	3304011	0	0	0	0	0	\$ 124	0	no	no	0	0	0
Troy Gravel	3301678	0	0	0	0	0	\$ 228	0	no	no	0	0	0
Waverly Sand	1202038	0	0	0	0	0	\$ 100	0	no	no	0	0	0
Xenia	3301393	0	0	0	0	0	\$ 100	0	no	no	0	0	0
Appling Quarry	901083	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Auburn, AI Quarry	100006	1	0	0	0	0	\$ 428	0	no	no	0	0	0
Auburn, GA Quarry	900436	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Augusta Quarry-GA	900065	0	0	0	0	0	\$ 214	0	no	no	0	0	0
Chattanooga Quarry	4003159	0	0	0	0	0	\$ 228	0	no	no	0	0	0
Forsyth Quarry	901035	0	0	0	0	0	\$ 671	0	no	no	0	0	0
Jefferson Quarry	901106	2	0	0	0	0	\$ 480	0	no	no	0	0	0
Junction City Quarry	901029	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Lithonia Quarry	900023	1	0	0	0	0	\$ 1,088	0	no	no	0	0	0

Maylene Quarry	100634	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Morgan Co Quarry	901126	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Newton Quarry	900899	0	0	0	0	0	\$ 0	0	no	no	0	0	0
ONeal Quarry Co19	103076	0	0	0	0	0	\$ 100	0	no	no	0	0	0
Paulding Quarry	901107	0	0	0	0	0	\$ 214	0	no	no	0	0	0
Perry Quarry	801083	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Red Oak Quarry	900069	0	0	0	0	0	\$ 214	0	no	no	0	0	0
Ruby Quarry	900074	0	0	0	0	0	\$ 150	0	no	no	0	0	0
Six Mile Quarry	901144	2	0	0	0	0	\$ 777	0	no	no	0	0	0
Tyrone Quarry	900306	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Vance Quarry Co19	103022	1	0	0	0	0	\$ 783	0	no	no	0	0	0
Warrenton Quarry	900580	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Alden Portable Sand	1302037	0	0	0	0	0	\$ 124	0	no	no	0	0	0
Alden Portable Plant 1	1302031	0	0	0	0	0	\$ 314	0	no	no	0	0	0
Alden Portable Plant 2	1302033	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Alden Portable Wash	1302122	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Alden Quarry - Shop	1300228	2	0	0	0	0	\$ 5,029	0	no	no	0	0	0
Ames Mine	1300014	5	0	0	0	0	\$ 8,045	0	no	no	0	0	1
Cedar Rapids Quarry	1300122	0	0	0	0	0	\$ 100	0	no	no	0	0	0
Des Moines Portable	1300150	3	0	0	0	0	\$ 3,256	0	no	no	1	1	0
Des Moines Shop	1300932	1	0	0	0	0	\$ 385	0	no	no	0	0	0
Dubois Quarry	2501046	1	0	0	0	0	\$ 428	0	no	no	0	0	0
Durham Mine	1301225	1	0	0	0	0	\$ 2,725	0	no	no	0	0	0
Earlham Quarry	1302123	4	0	0	0	0	\$ 142,636	1	no	no	1	2	1
Environmental Crew (Plant 854)	1302126	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Ferguson Quarry	1300124	0	0	0	0	0	\$ 328	0	no	no	0	0	0
Fort Calhoun	2500006	5	0	0	0	0	\$ 2,979	0	no	no	2	2	0
Fort Dodge Mine	1300032	0	0	0	0	0	\$ 3,064	0	no	no	0	0	0
Greenwood	2300141	1	0	0	0	0	\$ 1,668	0	no	no	0	0	0
Iowa Grading	1302316	4	0	0	0	0	\$ 2,022	0	no	no	0	0	0
Linn County Sand	1302208	0	0	0	0	0	\$ 108	0	no	no	0	0	0
Malcom Mine	1300112	2	0	0	0	0	\$ 2,677	0	no	no	0	0	0

Marshalltown Sand	1300718	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Moore Quarry	1302188	0	0	0	0	0	\$ 528	0	no	no	0	0	0
New Harvey Sand	1301778	0	0	0	0	0	\$ 200	0	no	no	0	0	0
Northwest Division OH	A2354	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Ottawa Quarry	1401590	0	0	0	0	0	\$ 100	0	no	no	0	0	0
Pacific Quarry	4500844	0	0	0	0	0	\$ 100	0	no	no	0	0	0
Parkville Mine	2301883	6	0	0	0	0	\$ 5,460	0	no	no	0	0	0
Pederson Quarry	1302192	1	0	0	0	0	\$ 314	0	no	no	0	0	0
Raccoon River Sand	1302315	2	0	0	0	0	\$ 466	0	no	no	0	0	0
Randolph Deep Mine	2302308	9	0	0	0	0	\$ 7,628	0	no	no	0	0	0
Reasoner Sand	1300814	0	0	0	0	0	\$ 342	0	no	no	0	0	0
Saylorville Sand	1302290	0	0	0	0	0	\$ 348	0	no	no	0	0	0
St Cloud Quarry	2100081	2	0	0	0	0	\$ 7,015	0	no	no	0	0	0
Stamper Mine	2302232	3	0	0	0	0	\$ 2,865	0	no	no	0	1	1
Sully Mine	1300063	3	0	0	0	0	\$ 2,651	0	no	no	0	0	0
Sunflower	1401556	3	0	0	0	0	\$ 1,982	0	no	no	0	0	0
Weeping Water Mine	2500998	10	0	0	0	1	\$ 16,298	0	no	no	5	5	1
Yellow Medicine Quarry	2100033	1	0	0	0	0	\$ 5,494	0	no	no	0	0	0
211 Quarry	4103829	0	0	0	0	0	\$ 200	0	no	no	0	0	0
Augusta Quarry-KS	1400126	1	0	0	0	0	\$ 1,222	0	no	no	0	0	0
Beckman Quarry	4101335	2	0	0	0	0	\$ 1,478	0	no	no	0	0	0
Bedrock Plant	4103283	0	0	0	0	0	\$ 342	0	no	no	0	0	0
Bells Savoy SG TXI	4104019	1	0	0	0	0	\$ 1,076	0	no	no	0	0	0
Black Rock Quarry	300011	0	0	0	0	0	\$ 442	0	no	no	0	0	1
Black Spur Quarry	4104159	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Blake Quarry	1401584	1	0	1	0	0	\$ 2,536	0	no	no	0	0	0
Bridgeport Stone TXI	4100007	2	0	0	0	0	\$ 656	0	no	no	0	0	0
Broken Bow SandG	3400460	0	0	0	0	0	\$ 452	0	no	no	0	0	0
Chico	4103360	1	0	0	0	0	\$ 1,612	0	no	no	0	0	0
Davis	3401299	0	0	0	0	0	\$ 114	0	no	no	0	0	2
Garfield SG TXI	4103909	0	0	0	0	0	\$ 100	0	no	no	0	0	0
Garwood	4102886	0	0	0	0	0	\$ 542	0	no	no	0	0	0

GMS - TXI	C335	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Hatton Quarry	301614	1	0	0	0	0	\$ 324	0	no	no	0	0	0
Helotes	4103137	0	0	0	0	0	\$ 114	0	no	no	0	0	0
Hondo	4104708	1	0	0	0	0	\$ 390	0	no	no	0	0	0
Hondo-1	4104090	0	1	0	0	0	\$ 127	0	no	no	1	1	0
Hugo	3400061	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Idabel	3400507	0	0	0	0	0	\$ 134	0	no	no	0	0	0
Jena Aggregates TXI	1601298	1	0	0	0	0	\$ 929	0	no	no	0	0	0
Jones Mill Quarry	301586	0	0	0	0	0	\$ 100	0	no	no	0	0	0
Koontz McCombs Pit	4105048	0	0	0	0	0	\$ 338	0	no	no	0	0	0
Medina Rock and Rail	4105170	1	0	0	0	0	\$ 1,100	0	no	no	1	1	0
Mill Creek	3401285	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Mill Creek TXI	3401859	4	0	0	0	0	\$ 1,827	0	no	no	0	0	0
New Braunfels Quarry	4104264	1	0	0	0	0	\$ 667	0	no	no	1	0	0
Perryville Aggregates TXI	1601417	0	0	0	0	0	\$ 328	0	no	no	0	0	0
Poteet (Sand Plant)	4101342	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Rio Medina	4103594	0	0	0	0	0	\$ 250	0	no	no	0	0	0
San Pedro Quarry	4101337	0	0	0	0	0	\$ 100	0	no	no	0	0	0
Sawyer	3401634	0	0	0	0	0	\$ 1,012	0	no	no	0	0	0
Snyder	3401651	2	0	0	0	0	\$ 2,095	0	no	no	0	0	0
South Texas Port No.2	4104204	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Tin Top SG TXI	4102852	0	0	0	0	0	\$ 670	0	no	no	0	0	0
Washita Quarry	3402049	0	0	0	0	0	\$ 100	0	no	no	0	0	0
Webberville TXI	4104363	0	0	0	0	0	\$ 100	0	no	no	0	0	0
Woodworth Aggregates TXI	1601070	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Cottonwood Sand and Gravel	504418	1	0	0	0	0	\$ 644	0	no	no	0	0	0
Fountain Sand and Gravel	503821	2	0	0	0	0	\$ 2,495	0	no	no	0	0	0
Granite Canyon Quarry	4800018	1	1	0	0	0	\$ 1,418	0	no	no	0	0	0
Greeley 35th Ready Mix	503215	0	0	0	0	0	\$ 624	0	no	no	0	0	0
Greeley 35th Sand and Gravel	504613	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Guernsey	4800004	0	0	0	0	0	\$ 756	0	no	no	0	0	0
Milford	4202177	0	0	0	0	0	\$ 385	0	no	no	0	0	0

Northern Portable Plant #1	504359	0	0	0	0	0	\$ 100	0	no	no	0	0	0
Northern Portable Plant #4	4801565	0	0	0	0	0	\$ 100	0	no	no	0	0	0
Northern Portable Plant #19	504382	0	0	0	0	0	\$ 100	0	no	no	0	0	0
Parkdale Quarry	504635	7	4	0	0	0	\$ 6,269	0	no	no	0	0	0
Penrose SG	504509	0	0	0	0	0	\$ 974	0	no	no	0	0	0
Portable Crushing	503984	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Portable Recycle 21	504520	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Red Canyon Quarry	504136	2	0	0	0	0	\$ 1,348	0	no	no	0	0	0
Riverbend Sand and Gravel	504841	1	0	0	0	0	\$ 962	0	no	no	0	0	0
Sokol SG	504977	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Spanish Springs Co 2	2600803	3	0	0	0	1	\$ 2,108	0	no	no	6	6	0
Spec Agg Sand and Gravel	500860	1	0	0	0	0	\$ 468	0	no	no	0	0	0
Taft Sand and Gravel	504526	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Taft Shop	504735	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Three Bells Ditullio Sand and Gravel	504361	0	0	0	0	0	\$ 0	0	no	no	0	0	0
Hunter Cement TXI	4102820	1	0	0	0	0	\$ 10,362	0	no	no	0	0	5
Midlothian Cement TXI	4100071	3	0	0	0	0	\$ 4,578	0	no	no	0	0	0
Salisbury Shop	3101235	0	0	0	0	0	\$ 376	0	no	no	0	0	0
Woodville	3300156	1	0	0	0	0	\$ 5,466	0	no	no	0	0	0
TOTALS:		154	8	1	0	2	\$ 339,151	1			27	28	19

* Of the 27 legal actions pending on December 31, 2016, 17 were contest of citations or orders reference in Subpart B of CFR Part 2700, which includes contests of citations and orders issued under Section 104 of the Mine Act and contests of imminent danger orders under Section 107 of the Mine Act, and 10 were contests of proposed penalties referenced in Subpart C of 29 CFR Part 2700, which are administrative proceedings before the Commission challenging a civil penalty that MSHA has proposed for the violation contained in a citation or order.