

VALHI INC /DE/
Form 10-K
March 11, 2016

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

x ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF
1934—For the fiscal year ended December 31, 2015
Commission file number 1-5467

VALHI, INC.

(Exact name of Registrant as specified in its charter)

Delaware (State or other jurisdiction of Incorporation or organization)	87-0110150 (IRS Employer Identification No.)
5430 LBJ Freeway, Suite 1700, Dallas, Texas (Address of principal executive offices)	75240-2697 (Zip Code)

Registrant's telephone number, including area code: (972) 233-1700

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

Title of each class Common stock (\$0.01 par value per share)	Name of each exchange on which registered New York Stock Exchange
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Securities registered pursuant to Section 12(g) of the Act:

None.

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Indicate by check mark:

If the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

If the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

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

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

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. Yes No

Whether the Registrant is a large accelerated filer, an accelerated filer or a non-accelerated filer or a smaller reporting company (as defined in Rule 12b-2 of the Act).

Large accelerated filer Accelerated filer

Non-accelerated filer Smaller reporting company

Whether the Registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

The aggregate market value of the 19.1 million shares of voting common stock held by nonaffiliates of Valhi, Inc. as of June 30, 2015 (the last business day of the Registrant's most recently-completed second fiscal quarter) approximated \$108.2 million.

As of March 4, 2016, 339,142,949 shares of the Registrant's common stock were outstanding.

Documents incorporated by reference

The information required by Part III is incorporated by reference from the Registrant's definitive proxy statement to be filed with the Commission pursuant to Regulation 14A not later than 120 days after the end of the fiscal year covered by this report.

PART I

ITEM 1. BUSINESS

Valhi, Inc. (NYSE: VHI) is primarily a holding company. We operate through our wholly-owned and majority-owned subsidiaries, including NL Industries, Inc., Kronos Worldwide, Inc., CompX International Inc. and Waste Control Specialists LLC (“WCS”). Kronos (NYSE: KRO), NL (NYSE: NL) and CompX (NYSE MKT: CIX) each file periodic reports with the U.S. Securities and Exchange Commission (“SEC”).

Our principal executive offices are located at Three Lincoln Center 5430 LBJ Freeway, Suite 1700, Dallas, Texas 75240. Our telephone number is (972) 233-1700. We maintain a worldwide website at www.valhi.net.

Brief History

LLC Corporation, our legal predecessor, was incorporated in Delaware in 1932. We are the successor company of the 1987 merger of LLC Corporation and another entity controlled by Contran Corporation. One of Contran’s wholly-owned subsidiaries held approximately 93% of Valhi’s outstanding common stock at December 31, 2015. As discussed in Note 1 to our Consolidated Financial Statements, Lisa K. Simmons and Serena Simmons Connelly may be deemed to control Contran and us.

Key events in our history include:

- 1979—Contran acquires control of LLC;
- 1981—Contran acquires control of our other predecessor company;
- 1982—Contran acquires control of Keystone Consolidated Industries, Inc., a predecessor to CompX;
- 1984—Keystone spins-off an entity that includes what is to become CompX; this entity subsequently merges with LLC;
- 1986—Contran acquires control of NL, which at the time owns 100% of Kronos and a 50% interest in Titanium Metals Corporation (“TIMET”);
- 1987—LLC and another Contran controlled company merge to form Valhi, our current corporate structure;
- 1988—NL spins-off an entity that includes its investment in TIMET;
- 1995—WCS begins start-up operations;
 - 1996—TIMET completes an initial public offering;
- 2003—NL completes the spin-off of Kronos through the pro-rata distribution of Kronos shares to its shareholders including us;
- 2004 through 2005—NL distributes Kronos shares to its shareholders, including us, through quarterly dividends;
- 2007—We distribute all of our TIMET common stock to our shareholders through a stock dividend;
- 2008—WCS receives a license for the disposal of byproduct material and begins construction of the byproduct facility infrastructure;
- 2009—WCS receives a license for the disposal of Class A, B and C low-level radioactive waste (“LLRW”) and completes construction of the byproduct facility;
- 2010—Kronos completes a secondary offering of its common stock lowering our ownership of Kronos to 80%;
- 2011—WCS begins construction on its Compact and Federal “LLRW” and mixed LLRW disposal facilities;
- 2012—WCS completes construction of its Compact and Federal LLRW disposal facilities and commences operations at the Compact facility;
- 2012—In December we sell all of our remaining interest in TIMET and TIMET is no longer our affiliate;
- 2012—In December CompX completes the sale of its furniture components business;

·2013—WCS commences operations at the Federal LLRW facility;

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- 2013—In December we purchased an additional ownership interest in and became the majority owner of Basic Management, Inc. and The LandWell Company; both companies are now included in our Consolidated Financial Statements effective December 31, 2013;
- 2015—The first homes in our Cadence planned community were completed by third-party builders and sold to the public; and
- 2015—In November we entered into an agreement for the sale of WCS which is expected to close in the first half of 2016.

Unless otherwise indicated, references in this report to “we”, “us” or “our” refer to Valhi, Inc. and its subsidiaries, taken as a whole.

Forward-Looking Statements

This Annual Report on Form 10-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, as amended. Statements in this Annual Report that are not historical facts are forward-looking in nature and represent management’s beliefs and assumptions based on currently available information. In some cases, you can identify forward-looking statements by the use of words such as “believes,” “intends,” “may,” “should,” “could,” “anticipates,” “expects” or comparable terminology, or by discussions of strategies or trends. Although we believe that the expectations reflected in such forward-looking statements are reasonable, we do not know if these expectations will be correct. Such statements by their nature involve substantial risks and uncertainties that could significantly impact expected results. Actual future results could differ materially from those predicted. The factors that could cause actual future results to differ materially from those described herein are the risks and uncertainties discussed in this Annual Report and those described from time to time in our other filings with the SEC include, but are not limited to, the following:

- Future supply and demand for our products;
- The extent of the dependence of certain of our businesses on certain market sectors;
- The cyclicity of certain of our businesses (such as Kronos’ TiO₂ operations);
- Customer and producer inventory levels;
- Unexpected or earlier-than-expected industry capacity expansion (such as the TiO₂ industry);
- Changes in raw material and other operating costs (such as energy, ore, zinc and brass costs) and our ability to pass those costs on to our customers or offset them with reductions in other operating costs;
- Changes in the availability of raw materials (such as ore);
- General global economic and political conditions (such as changes in the level of gross domestic product in various regions of the world and the impact of such changes on demand for, among other things, TiO₂ and component products);
- Competitive products and prices and substitute products, including increased competition from low-cost manufacturing sources (such as China);
- Possible disruption of our business or increases in the cost of doing business resulting from terrorist activities or global conflicts;
- Customer and competitor strategies;
- Potential difficulties in integrating future acquisitions;
- Potential difficulties in upgrading or implementing new accounting and manufacturing software systems;
- Potential consolidation of our competitors;
- Potential consolidation of our customers;
- The impact of pricing and production decisions;
- Competitive technology positions;
- The introduction of trade barriers;

- The ability of our subsidiaries to pay us dividends;
- The impact of current or future government regulations (including employee healthcare benefit related regulations);
- Uncertainties associated with new product development and the development of new product features;
- Fluctuations in currency exchange rates (such as changes in the exchange rate between the U.S. dollar and each of the euro, the Norwegian krone and the Canadian dollar) or possible disruptions to our business resulting from potential instability resulting from uncertainties associated with the euro or other currencies;
- Operating interruptions (including, but not limited to, labor disputes, leaks, natural disasters, fires, explosions, unscheduled or unplanned downtime, transportation interruptions and cyber attacks);
- Decisions to sell operating assets other than in the ordinary course of business;
- The timing and amounts of insurance recoveries;
- Our ability to renew, amend, refinance or establish credit facilities;
- Our ability to maintain sufficient liquidity;
- The ultimate outcome of income tax audits, tax settlement initiatives or other tax matters;
- Our ultimate ability to utilize income tax attributes, the benefits of which may not presently have been recognized under the more-likely-than-not recognition criteria;
- Environmental matters (such as those requiring compliance with emission and discharge standards for existing and new facilities, or new developments regarding environmental remediation at sites related to our former operations);
- Government laws and regulations and possible changes therein (such as changes in government regulations which might impose various obligations on former manufacturers of lead pigment and lead-based paint, including NL, with respect to asserted health concerns associated with the use of such products);
- The ultimate resolution of pending litigation (such as NL's lead pigment litigation, environmental and other litigation and Kronos' class action litigation);
- Our ability to comply with covenants contained in our revolving bank credit facilities;
- Our ability to complete and comply with the conditions of our licenses and permits;
- Our ability to successfully defend against any possible future challenge to WCS' operating licenses and permits;
- Unexpected delays in the operational start-up of shipping containers procured by WCS;
- Changes in real estate values and construction costs in Henderson, Nevada;
- Water levels in Lake Mead; and
- Possible future litigation.

Should one or more of these risks materialize (or the consequences of such development worsen), or should the underlying assumptions prove incorrect, actual results could differ materially from those currently forecasted or expected. We disclaim any intention or obligation to update or revise any forward-looking statement whether as a result of changes in information, future events or otherwise.

Segments

We have four consolidated reportable operating segments at December 31, 2015:

Chemicals
Kronos Worldwide, Inc.

Our chemicals segment is operated through our majority control of Kronos. Kronos is a leading global producer and marketer of value-added titanium dioxide pigments (“TiO₂”). TiO₂ is used to impart whiteness, brightness, opacity and durability to a wide variety of products, including paints, plastics, paper, fibers and ceramics. Additionally, TiO₂ is a critical component of everyday applications, such as coatings, plastics and paper, as well as many specialty products such as inks, foods and cosmetics.

Component Products
CompX International Inc.

We operate in the component products industry through our majority control of CompX. CompX is a leading manufacturer of security products used in the recreational transportation, postal, office and institutional furniture, cabinetry, tool storage, healthcare and a variety of other industries. CompX is also a leading manufacturer of stainless steel exhaust systems, gauges, throttle controls and trim tabs for the recreational marine industry.

Waste Management
Waste Control Specialists LLC

WCS is our subsidiary which operates a West Texas facility for the processing, treatment, storage and disposal of a broad range of low-level radioactive, hazardous, toxic and other wastes. WCS obtained a byproduct disposal license in 2008 and began disposal operations at this facility in October 2009. WCS received a LLRW disposal license in September 2009. The Compact LLRW disposal facility commenced operations in 2012, and the Federal LLRW commenced operations in 2013. We reached an agreement for the sale of our Waste Management Segment in November 2015. See Note 3 to our Consolidated Financial Statements.

Real Estate Management and Development
Basic Management, Inc. and The LandWell Company

We operate in real estate management and development through our majority control of BMI and LandWell. BMI provides utility services to certain industrial and municipal customers and owns real property in Henderson, Nevada. LandWell is engaged in efforts to develop certain land holdings for commercial, industrial and residential purposes in Henderson, Nevada. In December 2013, we acquired a controlling interest in each of these companies, and they are included in our results of operations and cash flows beginning on January 1, 2014. See Note 3 to our Consolidated Financial Statements.

For additional information about our segments and equity investments see “Part II—Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” and Notes 2 and 7 to our Consolidated Financial Statements.

CHEMICALS SEGMENT—KRONOS WORLDWIDE, INC.

Business Overview

Through our majority-controlled subsidiary, Kronos, we are a leading global producer and marketer of value-added titanium dioxide pigments, or TiO₂, a base industrial product used in a wide range of applications. We, along with our distributors and agents, sell and provide technical services for our products to approximately 4,000 customers in 100

countries with the majority of sales in Europe and North America. We believe we have developed considerable expertise and efficiency in the manufacture, sale, shipment and service of our products in domestic and international markets.

TiO₂ is a white inorganic pigment used in a wide range of products for its exceptional durability and its ability to impart whiteness, brightness and opacity. TiO₂ is a critical component of everyday applications, such as coatings, plastics and paper, as well as many specialty products such as inks, food and cosmetics. TiO₂ is widely considered to be superior to alternative white pigments in large part due to its hiding power (or opacity), which is the ability to cover or mask other materials effectively and efficiently. TiO₂ is designed, marketed and sold based on specific end-use applications.

TiO₂ is the largest commercially used whitening pigment because it has a high refractive rating, giving it more hiding power than any other commercially produced white pigment. In addition, TiO₂ has excellent resistance to interaction with other chemicals, good thermal stability and resistance to ultraviolet degradation. Although there are other white pigments on the market, we believe there are no effective substitutes for TiO₂ because no other white pigment has the physical properties for achieving comparable opacity and brightness or can be incorporated in as cost-effective a manner. Pigment extenders such as kaolin clays, calcium carbonate and polymeric opacifiers are used together with TiO₂ in a number of end-use markets. However, these products are not able to duplicate the opacity performance characteristics of TiO₂ and we believe these products are unlikely to have a significant impact on the use of TiO₂.

TiO₂ is considered a “quality-of-life” product. Demand for TiO₂ has generally been driven by worldwide gross domestic product and has generally increased with rising standards of living in various regions of the world. According to industry estimates, TiO₂ consumption has grown at a compound annual growth rate of approximately 3.0% since 1990. Per capita consumption of TiO₂ in Western Europe and the United States far exceeds that in other areas of the world, and these regions are expected to continue to be the largest consumers of TiO₂ on a per capita basis. We believe that Western Europe and North America currently account for approximately 20% and 18% of global TiO₂ consumption, respectively. Markets for TiO₂ are generally increasing in South America, Eastern Europe, the Asia Pacific region and China and we believe these are significant markets where we expect continued growth as economies in these regions continue to develop and quality-of-life products, including TiO₂, experience greater demand.

Products and End-use Markets

Including our predecessors, we have produced and marketed TiO₂ in North America and Europe, our primary markets, for almost 100 years. We believe that we are the largest producer of TiO₂ in Europe with approximately one-half of our sales volumes attributable to markets in Europe. The table below shows our market share for our significant markets, Europe and North America, for the last three years.

	2013	2014	2015
Europe	18 %	18 %	18 %
North America	18 %	17 %	15 %

We believe we are the leading seller of TiO₂ in several countries, including Germany, with an estimated 9% share of worldwide TiO₂ sales volume in 2015. Overall, we are one of the top five producers of TiO₂ in the world.

We offer our customers a broad portfolio of products that include over 40 different TiO₂ pigment grades under the Kronos® trademark, which provide a variety of performance properties to meet customers’ specific requirements. Our major customers include domestic and international paint, plastics, decorative laminate and paper manufacturers. We ship TiO₂ to our customers in either a powder or slurry form via rail, truck and/or ocean carrier. Sales of our core TiO₂ pigments represented approximately 90% of our net sales in 2015. We and our agents and distributors primarily sell our products in three major end-use markets: coatings, plastics and paper.

The following tables show our approximate TiO₂ sales volume by geographic region and end use for the year ended December 31, 2015:

Sales volumes	Sales
percentages	volumes

by geographic region		percentages	
		by end-use	
Europe	52%	Coatings	55%
North America	29%	Plastics	31%
Asia Pacific	8%	Other	9%
Rest of World	11%	Paper	5%

Some of the principal applications for our products include the following.

TiO₂ for coatings - Our TiO₂ is used to provide opacity, durability, tinting strength and brightness in industrial coatings, as well as coatings for commercial and residential interiors and exteriors, automobiles, aircraft, machines, appliances, traffic paint and other special purpose coatings. The amount of TiO₂ used in coatings varies widely depending on the opacity, color and quality desired. In general, the higher the opacity requirement of the coating, the greater the TiO₂ content.

TiO₂ for plastics - We produce TiO₂ pigments that improve the optical and physical properties in plastics, including whiteness and opacity. TiO₂ is used to provide opacity in items such as containers and packaging materials, and vinyl products such as windows, door profiles and siding. TiO₂ also generally provides hiding power, neutral undertone, brightness and surface durability for housewares, appliances, toys, computer cases and food packages. TiO₂'s high brightness along with its opacity, is used in some engineering plastics to help mask their undesirable natural color. TiO₂ is also used in masterbatch, which is a concentrate of TiO₂ and other additives and is one of the largest uses for TiO₂ in the plastics end-use market. In masterbatch, the TiO₂ is dispersed at high concentrations into a plastic resin and is then used by manufacturers of plastic containers, bottles, packaging and agricultural films.

TiO₂ for paper - Our TiO₂ is used in the production of several types of paper, including laminate (decorative) paper, filled paper and coated paper to provide whiteness, brightness, opacity and color stability. Although we sell our TiO₂ to all segments of the paper end-use market, our primary focus is on the TiO₂ grades used in paper laminates, where several layers of paper are laminated together using melamine resin under high temperature and pressure. The top layer of paper contains TiO₂ and plastic resin and is the layer that is printed with decorative patterns. Paper laminates are used to replace materials such as wood and tile for such applications as counter tops, furniture and wallboard. TiO₂ is beneficial in these applications because it assists in preventing the material from fading or changing color after prolonged exposure to sunlight and other weathering agents.

TiO₂ for other applications - We produce TiO₂ to improve the opacity and hiding power of printing inks. TiO₂ allows inks to achieve very high print quality while not interfering with the technical requirements of printing machinery, including low abrasion, high printing speed and high temperatures. Our TiO₂ is also used in textile applications where TiO₂ functions as an opacifying and delustering agent. In man-made fibers such as rayon and polyester, TiO₂ corrects an otherwise undesirable glossy and translucent appearance. Without the presence of TiO₂, these materials would be unsuitable for use in many textile applications.

We produce high purity sulfate process anatase TiO₂ used to provide opacity, whiteness and brightness in a variety of cosmetic and personal care products, such as skin cream, lipstick, eye shadow and toothpaste. Our TiO₂ is also found in food products, such as candy and confectionaries, and in pet foods where it is used to obtain uniformity of color and appearance. In pharmaceuticals, our TiO₂ is used commonly as a colorant in pill and capsule coatings as well as in liquid medicines to provide uniformity of color and appearance. Kronos® purified anatase grades meet the applicable requirements of the CTFA (Cosmetics, Toiletries and Fragrances Association), USP and BP (United States Pharmacopoeia and British Pharmacopoeia) and the FDA (United States Food and Drug Administration).

Our TiO₂ business is enhanced by the following three complementary businesses, which comprised approximately 10% of our net sales in 2015:

We own and operate two ilmenite mines in Norway pursuant to a governmental concession with an unlimited term. Ilmenite is a raw material used directly as a feedstock by some sulfate-process TiO₂ plants. We believe that we have a significant competitive advantage because our mines supply our feedstock requirements for all of our European sulfate-process plants. We also sell ilmenite ore to third parties, some of whom are our competitors, and we sell an ilmenite-based specialty product to the oil and gas industry. The mines have estimated ilmenite reserves that are expected to last at least 50 years.

We manufacture and sell iron-based chemicals, which are co-products and processed co-products of the sulfate and chloride process TiO₂ pigment production. These co-product chemicals are marketed through our Ecochem division and are primarily used as treatment and conditioning agents for industrial effluents and municipal wastewater as well as in the manufacture of iron pigments, cement and agricultural products.

We manufacture and sell titanium oxychloride and titanyl sulfate, which are side-stream specialty products from the production of TiO₂. Titanium oxychloride is used in specialty applications in the formulation of pearlescent pigments, production of electroceramic capacitors for cell phones and other electronic devices. Titanyl sulfate

productions are used in pearlescent pigments, natural gas pipe and other specialty applications.

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Manufacturing, operations and properties

We produce TiO₂ in two crystalline forms: rutile and anatase. Rutile TiO₂ is manufactured using both a chloride production process and a sulfate production process, whereas anatase TiO₂ is only produced using a sulfate production process. Manufacturers of many end-use applications can use either form, especially during periods of tight supply for TiO₂. The chloride process is the preferred form for use in coatings and plastics, the two largest end-use markets. Due to environmental factors and customer considerations, the proportion of TiO₂ industry sales represented by chloride process pigments has increased relative to sulfate process pigments, and in 2015, chloride process production facilities represented approximately 49% of industry capacity. The sulfate process is preferred for use in selected paper products, ceramics, rubber tires, man-made fibers, food products and cosmetics. Once an intermediate TiO₂ pigment has been produced by either the chloride or sulfate process, it is “finished” into products with specific performance characteristics for particular end-use applications through proprietary processes involving various chemical surface treatments and intensive micronizing (milling).

Chloride process - The chloride process is a continuous process in which chlorine is used to extract rutile TiO₂. The chloride process produces less waste than the sulfate process because much of the chlorine is recycled and feedstock bearing higher titanium content is used. The chloride process also has lower energy requirements and is less labor-intensive than the sulfate process, although the chloride process requires a higher-skilled labor force. The chloride process produces an intermediate base pigment with a wide range of properties.

Sulfate process - The sulfate process is a batch process in which sulfuric acid is used to extract the TiO₂ from ilmenite or titanium slag. After separation from the impurities in the ore (mainly iron), the TiO₂ is precipitated and calcined to form an intermediate base pigment ready for sale or can be upgraded through finishing treatments. We produced 528,000 metric tons of TiO₂ in 2015, up from the 511,000 metric tons we produced in 2014. Our production amounts include our share of the output produced by our TiO₂ manufacturing joint venture discussed below in “TiQ Manufacturing Joint Venture.” Our average production capacity utilization rates were approximately 86%, 92% and 95% of capacity in 2013, 2014 and 2015, respectively. Our production utilization rates in 2013 were impacted by the previously-reported lockout at our Canadian production facility that began in June 2013. We operated our Canadian plant at approximately 15% of the plant’s capacity with non-union management employees during the lockout. Our production rates in 2014 were also impacted by such lockout, as restart of production at the facility did not begin until February 2014. Our production rates in 2014 and in the first quarter of 2015 were also impacted by the implementation of certain productivity-enhancing improvement projects at other facilities, as well as necessary improvements to ensure continued compliance with our permit regulations, which resulted in longer-than-normal maintenance shutdowns in some instances.

We operate four TiO₂ plants in Europe (one in each of Leverkusen, Germany; Nordenham, Germany; Langerbrugge, Belgium; and Fredrikstad, Norway). In North America, we have a TiO₂ plant in Varennes, Quebec, Canada and, through the manufacturing joint venture described below in “TiQ Manufacturing Joint Venture,” a 50% interest in a TiO₂ plant in Lake Charles, Louisiana.

Our production capacity in 2015 was 555,000 metric tons, approximately three-fourths of which was from the chloride production process.

The following table presents the division of our expected 2016 manufacturing capacity by plant location and type of manufacturing process:

% of capacity by TiO₂
manufacturing process

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Facility	Description	Chloride	Sulfate
Leverkusen, Germany (1)	TiO ₂ production, chloride and sulfate process, co-products	39 %	25 %
Nordenham, Germany	TiO ₂ production, sulfate process, co-products	—	39
Langerbrugge, Belgium	TiO ₂ production, chloride process, co-products, titanium chemicals products	21	—
Fredrikstad, Norway (2)	TiO ₂ production, sulfate process, co-products	—	23
Varenes, Canada	TiO ₂ production, chloride and sulfate process, slurry facility, titanium chemicals products	21	13
Lake Charles, LA, US (3)	TiO ₂ production, chloride process	19	—
Total		100 %	100 %

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- (1) The Leverkusen facility is located within an extensive manufacturing complex owned by Bayer AG. We own the Leverkusen facility, which represents about one-third of our current TiO₂ production capacity, but we lease the land under the facility from Bayer under a long-term agreement which expires in 2050. Lease payments are periodically negotiated with Bayer for periods of at least two years at a time. A majority-owned subsidiary of Bayer provides some raw materials including chlorine, auxiliary and operating materials, utilities and services necessary to operate the Leverkusen facility under separate supplies and services agreements.
- (2) The Fredrikstad plant is located on public land and is leased until 2063.
- (3) We operate the Lake Charles facility in a joint venture with Tioxide Americas LLC (Tioxide), a subsidiary of Huntsman Corporation and the amount indicated in the table above represents the share of TiO₂ produced by the joint venture to which we are entitled. See Note 7 to our Consolidated Financial Statements and “TiO₂ Manufacturing Joint Venture.”

We own the land underlying all of our principle production facilities unless otherwise indicated in the table above.

Our production capacity has increased by approximately 12% over the past ten years due to debottlenecking programs, with only moderate capital expenditures. We believe that our annual attainable production capacity for 2016 is approximately 555,000 metric tons, and we currently expect our production capacity rate will be at near-capacity levels in 2016.

We also operate two ilmenite mines in Norway pursuant to a governmental concession with an unlimited term. In addition, we operate a rutile slurry manufacturing plant in Lake Charles, Louisiana, which converts dry pigment manufactured for us at the Lake Charles TiO₂ facility into a slurry form that is then shipped to customers.

We have various corporate and administrative offices located in the U.S., Germany, Norway, Canada and Belgium and various sales offices located in the U.S., Canada, Belgium, France, the Netherlands and the United Kingdom.

TiO₂ Manufacturing Joint Venture

Kronos Louisiana, Inc., one of our subsidiaries, and Tioxide each own a 50% interest in a manufacturing joint venture, Louisiana Pigment Company, L.P., or LPC. LPC owns and operates a chloride-process TiO₂ plant located in Lake Charles, Louisiana. We and Huntsman share production from the plant equally pursuant to separate offtake agreements, unless we and Huntsman otherwise agree (such as in 2015, when we purchased approximately 52% of the production from the plant).

A supervisory committee directs the business and affairs of the joint venture, including production and output decisions. This committee is composed of four members, two of whom we appoint and two of whom Huntsman appoints. Two general managers manage the operations of the joint venture acting under the direction of the supervisory committee. We appoint one general manager and Huntsman appoints the other.

The joint venture is not consolidated in our financial statements, because we do not control it. We account for our interest in the joint venture by the equity method. The joint venture operates on a break-even basis and therefore we do not have any equity in earnings of the joint venture. We are required to purchase one half of the TiO₂ produced by the joint venture. All costs and capital expenditures are shared equally with Huntsman with the exception of feedstock (purchased natural rutile ore or slag) and packaging costs for the pigment grades produced. Our share of net costs is reported as cost of sales as the TiO₂ is sold. See Note 7 to our Consolidated Financial Statements.

Raw materials

The primary raw materials used in chloride process TiO₂ are titanium-containing feedstock (purchased natural rutile ore or slag), chlorine and coke. Chlorine is available from a number of suppliers, while petroleum coke is available

from a limited number of suppliers. Titanium-containing feedstock suitable for use in the chloride process is available from a limited but increasing number of suppliers principally in Australia, South Africa, Canada, India and the United States. We purchase chloride process grade slag from Rio Tinto Iron and Titanium Limited under a long-term supply contract that expires at the end of 2018, subject to two-year renewal periods if both parties agree. We also purchase upgraded slag from Rio Tinto Iron and Titanium Limited under a long-term supply contract that expires at the end of 2019. We purchase natural rutile ore under contracts primarily from Iluka Resources, Limited and Sierra Rutile Limited, all of which expire in 2016. In the past we have been, and we expect that we will continue to be, successful in obtaining short-term and long-term extensions to these and other existing supply contracts prior to their expiration. We expect the raw materials purchased under these contracts, and contracts that we may enter into, will meet our chloride process feedstock requirements over the next several years.

The primary raw materials used in sulfate process TiO_2 are titanium-containing feedstock, primarily ilmenite or purchased sulfate grade slag and sulfuric acid. Sulfuric acid is available from a number of suppliers. Titanium-containing feedstock suitable for use in the sulfate process is available from a limited number of suppliers principally in Norway, Canada, Australia, India and South Africa. As one of the few vertically-integrated producers of sulfate process TiO_2 , we operate two rock ilmenite mines in Norway, which provided all of the feedstock for our European sulfate process TiO_2 plants in 2015. We expect ilmenite production from our mines to meet our European sulfate process feedstock requirements for the foreseeable future. For our Canadian sulfate process plant, we purchase sulfate grade slag primarily from Rio Tinto Fer et Titane Inc. under a supply contract that renews annually, subject to termination upon twelve months written notice. We expect the raw materials purchased under these contracts, and contracts that we may enter into, to meet our sulfate process feedstock requirements over the next several years.

Many of our raw material contracts contain fixed quantities we are required to purchase, or specify a range of quantities within which we are required to purchase. The pricing under these agreements is generally negotiated quarterly.

The following table summarizes our raw materials purchased or mined in 2015.

Production process/raw material	Raw materials procured or mined (In thousands of metric tons)
Chloride process plants—	
Purchased slag or rutile ore	451
Sulfate process plants:	
Ilmenite ore mined and used internally	323
Purchased slag	10

Sales and Marketing

Our marketing strategy is aimed at developing and maintaining strong customer relationships with new and existing accounts. Because TiO_2 represents a significant raw material cost for our customers, the purchasing decisions are often made by our customers' senior management. We work to maintain close relationships with the key decision makers, through in-depth and frequent in-person meetings. We endeavor to extend these commercial and technical relationships to multiple levels within our customers' organization using our direct sales force and technical service group to accomplish this objective. We believe this has helped build customer loyalty to Kronos and strengthened our competitive position. Close cooperation and strong customer relationships enable us to stay closely attuned to trends in our customers' businesses. Where appropriate, we work in conjunction with our customers to solve formulation or application problems by modifying specific product properties or developing new pigment grades. We also focus our sales and marketing efforts on those geographic and end-use market segments where we believe we can realize higher selling prices. This focus includes continuously reviewing and optimizing our customer and product portfolios.

Our marketing strategy is also aimed at working directly with customers to monitor the success of our products in their end-use applications, evaluate the need for improvements in product and process technology and identify opportunities to develop new product solutions for our customers. Our marketing staff closely coordinates with our sales force and technical specialists to ensure that the needs of our customers are met, and to help develop and commercialize new grades where appropriate.

We sell a majority of our products through our direct sales force operating from six sales offices in Europe and one sales office in North America. We also utilize sales agents and distributors who are authorized to sell our products in specific geographic areas. In Europe, our sales efforts are conducted primarily through our direct sales force and our sales agents. Our agents do not sell any TiO₂ products other than Kronos® brand products. In North America, our sales are made primarily through our direct sales force and supported by a network of distributors. In addition to our direct sales force and sales agents, many of our sales agents also act as distributors to service our smaller customers in all regions. We offer customer and technical service to the customers who purchase our products through distributors as well as to our larger customers serviced by our direct sales force.

We sell to a diverse customer base with only one customer representing 10% or more of our sales in 2015 (Behr Process Corporation – 10%). Our largest ten customers accounted for approximately 34% of sales in 2015.

Neither our business as a whole nor any of our principal product groups is seasonal to any significant extent. However, TiO₂ sales are generally higher in the second and third quarters of the year, due in part to the increase in paint production in the spring to meet demand during the spring and summer painting seasons. With certain exceptions, we have historically operated our production facilities at near full capacity rates throughout the entire year, which among other things helps to minimize our per-unit production costs. As a result, we normally will build inventories during the first and fourth quarters of each year, in order to maximize our product availability during the higher demand periods normally experienced in the second and third quarters.

Competition

The TiO₂ industry is highly competitive. We compete primarily on the basis of price, product quality, technical service and the availability of high performance pigment grades. Since TiO₂ is not a traded commodity, its pricing is largely a product of negotiation between suppliers and their respective customers. Although certain TiO₂ grades are considered specialty pigments, the majority of our grades and substantially all of our production are considered commodity pigments with price and availability being the most significant competitive factors along with quality and customer service. During 2015, we had an estimated 9% share of worldwide TiO₂ sales volume, and based on sales volumes, we believe we are the leading seller of TiO₂ in several countries, including Germany.

Our principal competitors are The Chemours Company, or Chemours (which was spun-off from E.I. du Pont de Nemours & Co. into a separate publicly-traded company in 2015); Millennium Inorganic Chemicals, Inc. (a subsidiary of National Titanium Dioxide Company Ltd.), or Cristal; Huntsman Corporation; and Tronox Incorporated. The top five TiO₂ producers (i.e. we and our four principal competitors) account for approximately 56% of the world's production capacity. Huntsman completed its purchase of the TiO₂ business of Sachtleben Chemie GmbH in 2014, and has also announced its intent to exit the TiO₂ business by December 31, 2016. In February 2015, Huntsman announced a plan to reduce its TiO₂ capacity by approximately 100,000 metric tons at one of its European sulfate process facilities. In August 2015, Chemours announced plans to close its plant in Delaware and shut down a production line at its facility in Tennessee, reducing its overall capacity by approximately 150,000 metric tons.

The following chart shows our estimate of worldwide production capacity in 2015:

Worldwide production capacity—2015	
Chemours	17 %
Huntsman	12 %
Cristal	12 %
Kronos	8 %
Tronox	7 %
Other	44 %

Chemours has over one-half of total North American TiO₂ production capacity and is our principal North American competitor.

Over the past ten years, we and our competitors increased industry capacity through debottlenecking projects, which in part compensated for the shut-down of various TiO₂ plants in France, the United States, the United Kingdom and China. Chemours has announced the scheduled production start-up of a 200,000 metric ton line at its plant in Mexico in mid-2016. Although overall industry demand is expected to be generally higher in 2016 as compared to 2015 as a result of improving worldwide economic conditions, we do not expect any other significant efforts will be undertaken by us or our principal competitors to further increase capacity for the foreseeable future, other than through debottlenecking projects. If actual developments differ from our expectations, the TiO₂ industry's performance and that of our own could be unfavorably affected.

The TiO₂ industry is characterized by high barriers to entry consisting of high capital costs, proprietary technology and significant lead times (typically three to five years in our experience) required to construct new facilities or to expand existing capacity. We believe it is unlikely any new TiO₂ plants will be constructed in Europe or North America in the foreseeable future.

Research and development

We employ scientists, chemists, process engineers and technicians who are engaged in research and development, process technology and quality assurance activities in Leverkusen, Germany. These individuals have the responsibility for improving our chloride and sulfate production processes, improving product quality and strengthening our competitive position by developing new applications. Our expenditures for these activities were approximately \$18 million in 2013, \$19 million in 2014 and \$16 million in 2015. We expect to spend approximately \$14 million on research and development in 2016.

We continually seek to improve the quality of our grades and have been successful at developing new grades for existing and new applications to meet the needs of our customers and increase product life cycles. Since 2010, we have added seven new grades for pigments and other applications.

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Patents, trademarks, trade secrets and other intellectual property rights

We have a comprehensive intellectual property protection strategy that includes obtaining, maintaining and enforcing our patents, primarily in the United States, Canada and Europe. We also protect our trademark and trade secret rights and have entered into license agreements with third parties concerning various intellectual property matters. We have also from time to time been involved in disputes over intellectual property.

Patents - We have obtained patents and have numerous patent applications pending that cover our products and the technology used in the manufacture of our products. Our patent strategy is important to us and our continuing business activities. In addition to maintaining our patent portfolio, we seek patent protection for our technical developments, principally in the United States, Canada and Europe. U.S. Patents are generally in effect for 20 years from the date of filing. Our U.S. patent portfolio includes patents having remaining terms ranging from one year to 19 years.

Trademarks and trade secrets - Our trademarks, including Kronos®, are covered by issued and/or pending registrations, including in Canada and the United States. We protect the trademarks that we use in connection with the products we manufacture and sell and have developed goodwill in connection with our long-term use of our trademarks. We conduct research activities in secret and we protect the confidentiality of our trade secrets through reasonable measures, including confidentiality agreements and security procedures, including data security. We rely upon unpatented proprietary knowledge and continuing technological innovation and other trade secrets to develop and maintain our competitive position. Our proprietary chloride production process is an important part of our technology and our business could be harmed if we fail to maintain confidentiality of our trade secrets used in this technology.

Employees

As of December 31, 2015, we employed the following number of people:

Europe	1,890
Canada	345
United States (1)	45
Total	2,280

(1)Excludes employees of our Louisiana joint venture

Certain employees at each of our production facilities are organized by labor unions. In Europe, our union employees are covered by master collective bargaining agreements for the chemical industry that are generally renewed annually. In Canada, our union employees are covered by a collective bargaining agreement that expires in June 2018. At December 31, 2015, approximately 87% of our worldwide workforce is organized under collective bargaining agreements. It is possible that there could be future work stoppages or other labor disruptions that could materially and adversely affect our business, results of operations, financial position or liquidity.

Regulatory and environmental matters

Our operations and properties are governed by various environmental laws and regulations, which are complex, change frequently and have tended to become stricter over time. These environmental laws govern, among other things, the generation, storage, handling, use and transportation of hazardous materials; the emission and discharge of hazardous materials into the ground, air or water; and the health and safety of our employees. Certain of our operations are, or have been, engaged in the generation, storage, handling, manufacture or use of substances or

compounds that may be considered toxic or hazardous within the meaning of applicable environmental laws and regulations. As with other companies engaged in similar businesses, certain of our past and current operations and products have the potential to cause environmental or other damage. We have implemented and continue to implement various policies and programs in an effort to minimize these risks. Our policy is to comply with applicable environmental laws and regulations at all our facilities and to strive to improve our environmental performance. It is possible that future developments, such as stricter requirements in environmental laws and enforcement policies, could adversely affect our operations, including production, handling, use, storage, transportation, sale or disposal of hazardous or toxic substances or require us to make capital and other expenditures to comply, and could adversely affect our consolidated financial position and results of operations or liquidity.

Our U.S. manufacturing operations are governed by federal, state and local environmental and worker health and safety laws and regulations. These include the Resource Conservation and Recovery Act, or RCRA, the Occupational Safety and Health Act, the Clean Air Act, the Clean Water Act, the Safe Drinking Water Act, the Toxic Substances Control Act and the Comprehensive Environmental Response, Compensation and Liability Act (“CERCLA”), as amended by the Superfund Amendments and

Reauthorization Act, or CERCLA, as well as the state counterparts of these statutes. Some of these laws hold current or previous owners or operators of real property liable for the costs of cleaning up contamination, even if these owners or operators did not know of, and were not responsible for, such contamination. These laws also assess liability on any person who arranges for the disposal or treatment of hazardous substances, regardless of whether the affected site is owned or operated by such person. Although we have not incurred and do not currently anticipate any material liabilities in connection with such environmental laws, we may be required to make expenditures for environmental remediation in the future.

While the laws regulating operations of industrial facilities in Europe vary from country to country, a common regulatory framework is provided by the European Union, or the EU. Germany and Belgium are members of the EU and follow its initiatives. Norway is not a member but generally patterns its environmental regulatory actions after the EU.

At our sulfate plant facilities in Germany, we recycle spent sulfuric acid either through contracts with third parties or at our own facilities. In addition, at our German locations we have a contract with a third-party to treat certain sulfate-process effluents. At our Norwegian plant, we ship spent acid to a third party location where it is used as a neutralization agent. These contracts may be terminated by either party after giving three or four years advance notice, depending on the contract.

From time to time, our facilities may be subject to environmental regulatory enforcement under U.S. and non-U.S. statutes. Typically we establish compliance programs to resolve these matters. Occasionally, we may pay penalties. To date such penalties have not involved amounts having a material adverse effect on our consolidated financial position, results of operations or liquidity. We believe that all of our facilities are in substantial compliance with applicable environmental laws.

Our capital expenditures related to ongoing environmental compliance, protection and improvement programs, including capital expenditures which are primarily focused on increased operating efficiency but also result in improved environmental protection such as lower emissions from our manufacturing facilities, were \$6.9 million in 2015 and are currently expected to be approximately \$9 million in 2016.

COMPONENT PRODUCTS SEGMENT—COMPX INTERNATIONAL INC.

Business Overview

Through our majority-controlled subsidiary, CompX, we are a leading manufacturer of security products used in the recreational transportation, postal, office and institutional furniture, cabinetry, tool storage, healthcare and a variety of other industries. CompX is also a leading manufacturer of stainless steel exhaust systems, gauges, throttle controls, and trim tabs for the recreational marine industry. Our products are principally designed for use in medium to high-end product applications, where design, quality and durability are valued by our customers.

Manufacturing, Operations and Products

Security Products. CompX's security products reporting unit manufactures mechanical and electrical cabinet locks and other locking mechanisms used in a variety of applications including ignition systems, mailboxes, file cabinets, desk drawers, tool storage cabinets, vending and gaming machines, high security medical cabinetry, electronic circuit panels, storage compartments and gas station security. CompX's security products reporting unit has one manufacturing facility in Mauldin, South Carolina and one in Grayslake, Illinois shared with its marine components reporting unit. We believe we are a North American market leader in the manufacture and sale of cabinet locks and other locking mechanisms. These products include:

- disc tumbler locks which provide moderate security and generally represent the lowest cost lock to produce;
- pin tumbler locking mechanisms which are more costly to produce and are used in applications requiring higher levels of security, including KeSet® and System 64® (which each allow the user to change the keying on a single lock 64 times without removing the lock from its enclosure) TuBar® and Turbine™; and
- our innovative CompX eLock® and StealthLock® electronic locks which provide stand-alone or networked security and audit trail capability for drug storage and other valuables through the use of a proximity card, magnetic stripe or keypad credentials.

A substantial portion of our security products reporting unit's sales consist of products with specialized adaptations to an individual customer's specifications, some of which are listed above. We also have a standardized product line suitable for many customers, which is offered through a North American distribution network to locksmith and smaller original equipment manufacturer distributors via our STOCK LOCKS® distribution program.

Marine Components. CompX's marine components reporting unit manufactures and distributes stainless steel exhaust components, gauges, throttle controls, trim tabs, hardware and accessories primarily for performance and ski/wakeboard boats. CompX's marine components reporting unit has a facility in Neenah, Wisconsin and a facility in Grayslake, Illinois shared with its security products reporting unit. Our specialty marine component products are high-precision components designed to operate within tight tolerances in the highly demanding marine environment. These products include:

- original equipment and aftermarket stainless steel exhaust headers, exhaust pipes, mufflers and other exhaust components;
- high-performance gauges such as GPS speedometers and tachometers;
- mechanical and electronic controls and throttles;
- steering wheels and other billet aluminum accessories; and
- dash panels, LED lighting, wire harnesses and other accessories.

Our Component Products Segment operated three manufacturing facilities at December 31, 2015 as shown below. For additional information, see also "Item 2 – Properties", including information regarding leased and distribution-only facilities.

Facility Name	Reporting		Size (square feet)
	Unit	Location	
Owned Facilities:			
National ⁽¹⁾	SP	Mauldin, SC	198,000
Grayslake ⁽¹⁾	SP/MC	Grayslake, IL	133,000
Custom ⁽²⁾	MC	Neenah, WI	95,000
Leased Facilities:			
Distribution Center	SP/MC	Rancho Cucamonga, CA	11,500

⁽¹⁾ ISO-9001 registered facilities

⁽²⁾ ISO-9002 registered facility

Raw Materials

CompX's primary raw materials are:

- zinc and brass (used in the security products reporting unit for the manufacture of locking mechanisms); and
- stainless steel (used primarily in the marine components reporting unit for the manufacture of exhaust headers and pipes), aluminum (used for the manufacture of throttles and trim tabs), and other components).

These raw materials are purchased from several suppliers, are readily available from numerous sources and accounted for approximately 10% of CompX's total cost of sales for 2015. Total material costs, including purchased components, represented approximately 48% of CompX's cost of sales in 2015.

We occasionally enter into short-term commodity-related raw material supply arrangements to mitigate the impact of future increases in commodity-related raw material costs. These arrangements generally provide for stated unit prices based upon specified purchase volumes, which help us to stabilize our commodity-related raw material costs to a certain extent. We periodically enter into such arrangements for zinc and brass. Following a general softening of commodity metal markets during 2015, we expect commodity-related raw material prices to remain relatively stable during 2016; however, these raw materials purchased on the spot market are sometimes subject to unanticipated and

sudden price increases. We generally seek to mitigate the impact of fluctuations in these raw material costs on our margins through improvements in production efficiencies or other operating cost reductions. In the event we are unable to offset raw material cost increases with other cost reductions, it may be difficult to recover those cost increases through increased product selling prices or raw material surcharges due to the competitive nature of the markets served by our products. Consequently, overall operating margins can be affected by commodity-related raw material cost pressures. Commodity market prices are cyclical, reflecting overall economic trends, specific developments in consuming industries and speculative investor activities.

Patents and Trademarks

We hold a number of patents relating to our component products, certain of which we believe to be important to us and our continuing business activity. Patents generally have a term of 20 years, and our patents have remaining terms ranging from less than 1 year to 17 years at December 31, 2015. Our major trademarks and brand names in addition to CompX® include:

Security Products		Marine Components
CompX® Security Products™	Lockview®	Custom Marine®
National Cabinet Lock®	System 64®	Livorsi® Marine
Fort Lock®	SlamCAM®	Livorsi II® Marine
Timberline® Lock	RegulatoR®	CMI Industrial®
Chicago Lock®	CompXpress®	Custom Marine® Stainless Exhaust
STOCK LOCKS®	GEM®	The #1 Choice in Performance Boating®
KeSet®		Mega Rim®
TuBar®		Race Rim®
StealthLock®		CompX Marine®
ACE®		Vantage View®
ACE® II		GEN-X®
CompX eLock®		

Sales, Marketing and Distribution.

A majority of our component sales are direct to large OEM customers through our factory-based sales and marketing professionals supported by engineers working in concert with field salespeople and independent manufacturer's representatives. We select manufacturer's representatives based on special skills in certain markets or relationships with current or potential customers.

In addition to sales to large OEM customers, a substantial portion of our security products reporting unit's sales are made through distributors. We have a significant North American market share of cabinet lock security product sales as a result of the locksmith distribution channel. We support our locksmith distributor sales with a line of standardized products used by the largest segments of the marketplace. These products are packaged and merchandised for easy availability and handling by distributors and end users.

In 2015, our ten largest customers, all customers of our security products reporting unit, accounted for approximately 48% of our total sales. United States Postal Service and Harley Davidson accounted for approximately 13% and 12%, respectively, of total sales for the year ended December 31, 2015. Overall, our customer base is diverse and the loss

of any single customer would not in itself have a material adverse effect on our operations.

Competition

The markets in which we participate are highly competitive. We compete primarily on the basis of product design, including space utilization and aesthetic factors, product quality and durability, price, on-time delivery, service and technical support. We focus our efforts on the middle and high-end segments of the market, where product design, quality, durability and service are valued by the customer. Our security products reporting unit competes against a number of domestic and foreign manufacturers. Our marine components reporting unit competes with small domestic manufacturers and is minimally affected by foreign competitors.

Regulatory and Environmental Matters

Our operations are subject to federal, state and local laws and regulations relating to the use, storage, handling, generation, transportation, treatment, emission, discharge, disposal, remediation of and exposure to hazardous and non-hazardous substances, materials and wastes (“Environmental Laws”). Our operations also are subject to federal, state and local laws and regulations relating to worker health and safety. We believe we are in substantial compliance with all such laws and regulations. To date, the costs of maintaining compliance with such laws and regulations have not significantly impacted our results. We currently do not anticipate any significant costs or expenses relating to such matters; however, it is possible future laws and regulations may require us to incur significant additional expenditures.

Employees

As of December 31, 2015, we employed 512 people, all in the United States. We believe our labor relations are good at all of our facilities.

WASTE MANAGEMENT SEGMENT—WASTE CONTROL SPECIALISTS LLC

On November 18, 2015, we entered into an agreement with Rockwell Holdco, Inc. ("Rockwell"), for the sale of WCS to Rockwell for \$270 million in cash, \$20 million face amount in Series A Preferred Stock of Rockwell plus the assumption of all of WCS' third-party indebtedness incurred prior to the date of the agreement. Additionally, Rockwell and its affiliates will assume all financial assurance obligations related to the WCS business. We have agreed to covenants relating to our Waste Management Segment's conduct of its business until the closing of the sale. Rockwell is the parent company of EnergySolutions, Inc. Completion of the sale is subject to certain customary closing conditions, including the receipt of U.S. anti-trust approval, and is expected to close in the first half of 2016, assuming all closing conditions are satisfied. There can be no assurance that any such sale of WCS would be completed. See Note 3 to our Consolidated Financial Statements.

Business Overview

Our Waste Management Segment was formed in 1995, and in early 1997 we completed construction of the initial phase of our waste management facility in West Texas. The original facility was initially designed for the processing, treatment, storage and disposal of certain hazardous and toxic wastes. We received the first wastes for disposal in 1997. Subsequently, we expanded our authorizations to include the processing, treatment and storage of LLRW and mixed LLRW and the disposal of certain types of exempt LLRW. In May 2008, the Texas Commission on Environmental Quality ("TCEQ") issued a byproduct materials disposal license to us. In January 2009, TCEQ issued a near-surface LLRW disposal license to us. This license was signed in September 2009.

We began construction of the byproduct facility infrastructure at our site in Andrews County, Texas in the third quarter of 2008, and this facility began disposal operations in October 2009. Construction of the Compact and Federal LLRW sites began in January 2011. The Compact LLRW site was fully certified and operational in April 2012. The Federal LLRW site was fully certified and operational in September 2012 and received its first waste for disposal in 2013.

Facility, Operations and Services

Our Waste Management Segment operates one waste management facility located on a 1,338-acre site in West Texas. The facility is permitted for 3.8 million cubic yards of airspace landfill capacity for the disposal of RCRA, Toxic Substance Control Act ("TSCA"), Byproduct and LLRW and mixed LLRW wastes. We also own approximately 13,000 acres of additional land surrounding the permitted site, a small portion of which is located in New Mexico, which is available for future expansion. We believe our facility has superior geological characteristics which make it an environmentally-desirable location for this type of waste disposal. The facility is located in a relatively remote and arid section of West Texas. The possibility of leakage into any underground water table is considered highly remote because the ground is composed of Triassic red bed clay, and we do not believe there are any underground aquifers or other usable sources of water below the site based in part on extensive drilling by the oil and gas industry and our own test wells. Pursuant to the requirements of WCS' LLRW disposal license, the State of Texas, acting by and through the TCEQ, owns the real property for WCS' licensed "compact waste disposal facility" and leases it back to WCS; and WCS owns the real property for its licensed "federal waste disposal facility". The remainder of WCS' permitted site, and the Texas portion of the surrounding land described above, is subject to the sale-leaseback transaction WCS entered into with the County of Andrews, Texas, as discussed in Note 9 to our Consolidated Financial Statements.

The waste management facility operates under various licenses and permits, including in the following categories:

- LLRW Disposal. The LLRW disposal license allows WCS to dispose of Class A, B and C LLRW in the Compact LLRW disposal facility and the Federal LLRW disposal facility. The Federal LLRW disposal facility is for LLRW that is the responsibility of the U.S. government under applicable law, and is also permitted for disposal of mixed LLRW. The Compact LLRW disposal facility is licensed to accept LLRW that was either generated in Texas or Vermont, or has been approved for importation to Texas by the Texas Low-Level Radioactive Waste Disposal Compact Commission. Construction of the Compact and Federal LLRW disposal facilities began in January 2011. Both facilities were fully certified and operational in 2012. We accepted our first Compact waste disposal shipments in April 2012, but routine Compact disposal receipts did not occur until July 2012. We received a national disposal contract for our Federal LLRW disposal facility from the Department of Energy (“DOE”) in April 2013, and we have regularly received waste for disposal in the Federal LLRW disposal facility since the end of the second quarter of 2013.
- LLRW Treatment/Storage. In November 1997, the Texas Department of State Health Services (“TDSHS”) issued a license to us for the treatment and storage, but not disposal, of LLRW and mixed LLRW. In June 2007, the TDSHS regulatory authority for this license was transferred to TCEQ. The current provisions of this license generally enable us to accept such wastes for treatment and storage from U.S. commercial and federal generators, including the DOE and other governmental agencies. We accepted the first shipments of such wastes in 1998.

- RCRA/Exempt. Our Waste Management Segment has permits from the TCEQ to accept hazardous wastes governed by RCRA, for treatment, storage and/or disposal. In March 2015, we submitted our renewal application for our RCRA permit for a new ten-year period. The application is still pending, but we are permitted to continue to accept hazardous waste governed by RCRA while under review. We have obtained additional authority to dispose of certain categories of LLRW, including naturally-occurring radioactive material (“NORM”) and waste that is exempt from radioactive waste disposal regulations (radioactive materials that do not exceed certain specified radioactive concentrations and are exempt from licensing). Waste disposed of under these permits and authorizations are disposed of in what we call the “RCRA landfill.”
- TSCA. Our Waste Management Segment has permits from the U.S. Environmental Protection Agency (“EPA”) to accept toxic wastes governed by TSCA for treatment, storage and/or disposal. In May 2015, we submitted our application for renewal of our five-year TSCA authorization for a new five-year period beginning in 2015 (which application is still pending, but we are permitted to continue to accept toxic waste pending receipt of the new five-year authorization), and in 2012 our TSCA authorization was amended to include our Federal LLRW disposal facility.
- Byproduct Disposal. In May 2008, TCEQ issued us a license for the disposal of byproduct material. Byproduct material includes uranium or thorium mill tailings as well as equipment, pipe and other materials used to handle and process the mill tailings. We completed construction of the byproduct facility infrastructure at our site in Andrews County, Texas in the third quarter of 2009, and this facility began disposal operations in October 2009. Byproduct materials are disposed of in what we call the “Byproduct landfill.”

Our LLRW Treatment/Storage facility also serves as a staging and processing location for material that requires other forms of treatment prior to final disposal as mandated by the EPA or other regulatory bodies. Our 20,000 square foot treatment facility provides for waste treatment/stabilization, warehouse storage and treatment facilities for hazardous, toxic and mixed LLRW, drum to bulk, and bulk to drum materials handling and repackaging capabilities. Treatment operations involve processing wastes through one or more chemical or other treatment methods, depending upon the particular waste being disposed and regulatory and customer requirements. Chemical treatment uses chemical oxidation and reduction, chemical precipitation of heavy metals, hydrolysis and neutralization of acid and alkaline wastes, and results in the transformation of waste into inert materials through one or more of these chemical processes. Certain treatment processes involve technology which we may acquire, license or subcontract from third parties. Once treated and stabilized, waste currently is either: (i) placed in our landfills, (ii) stored onsite in drums or other specialized containers or (iii) shipped to third-party facilities for final disposition. Only waste that meets certain specified regulatory requirements can be disposed of in our landfills.

In February 2015, we sent a notification to the Nuclear Regulatory Commission (“NRC”) expressing our intent to apply for a license for the interim storage of used nuclear fuel at our facility. Currently used nuclear fuel is stored at 63 locations in 33 states. If approved and constructed, we would become the nation’s first centralized storage facility for such high level waste. We currently expect to submit a final license application by April 2016, and currently expect the licensing, regulatory requirements and construction process to be completed by December 2020. If approved and completed, we believe the storage facility will further enhance our one-stop shop for radioactive waste to provide a comprehensive disposal and storage solution for the entire range of waste produced in the nuclear fuel cycle for our customers. There can be no assurance that we would be successful in obtaining any license for such interim storage of used nuclear fuel.

Sales

Our Waste Management Segment’s target customers are industrial companies, including nuclear utilities, chemical, aerospace and electronics businesses and governmental agencies, including the DOE, which generate low-level radioactive, hazardous, mixed low-level radioactive and other wastes. We employ our own salespeople to market our

services to potential customers. During 2015, we had sales to five customers that exceed 10% of our net sales: Exelon Generation (19%), U.S. Department of Energy (16%), Nuclear Waste Partnership (12%), Arizona Public Service (12%), and Zion Solutions (11%). We have long-term agreements with many of our customers.

Competition

The hazardous waste industry (other than LLRW and mixed LLRW) currently has excess industry capacity caused by a number of factors, including a relative decline in the number of environmental remediation projects generating hazardous waste and efforts on the part of waste generators to reduce the volume of waste and/or manage waste onsite at their facilities. These factors have led to reduced demand and increased price pressure for non-radioactive hazardous waste management services.

Competition within the hazardous waste industry is diverse and based primarily on facility location/proximity to customers, pricing and customer service. We expect price competition to continue to be intense for RCRA- and TSCA-related wastes.

This price competition resulted in minimal use of our RCRA landfill in the past. Beginning in 2014, we gained the ability to accept a broader range of waste for disposal in the RCRA landfill. This has increased the use of our RCRA landfill because it has allowed us to be more competitive for “exempt waste,” which is hazardous waste that possesses very low levels of radioactivity and has been exempted by law from management and disposal requirements applicable to LLRW. We believe our broad range of permits for the treatment, storage and disposal of exempt waste, LLRW and mixed LLRW streams may position us better than our competitors and are a key element of our long-term strategy to provide “one-stop shopping” for exempt waste, LLRW and mixed LLRW.

The LLRW industry is very competitive. Our principal competitors with respect to LLRW are EnergySolutions, Inc., US Ecology Inc., and Perma-Fix Environmental Services, Inc. These competitors are well established, and some may have significantly greater resources than we do, which could be important factors to our potential customers. We believe we may be better positioned than our competitors due to our environmentally-desirable location, a broad level of local community support, a rail transportation network leading to our facility, our capability for future site expansion and the fact that the State of Texas takes title to the LLRW in our Compact disposal facility.

LLRW, mixed LLRW and exempt waste can be and currently is stored in numerous sites around the country and, alternatively, generators can dispose of LLRW, mixed LLRW and exempt waste in facilities operated by us and our competitors. Many of our customers store these waste streams onsite, which serves as an alternative to our and our competitors’ disposal services.

Facilities that dispose of LLRW, mixed LLRW and exempt waste, such as our facility in Texas, are generally subject to the following requirements: (i) commercial LLRW disposal facilities can only be licensed by the NRC or states that have an agreement with NRC to assume portions of its regulatory authority (“Agreement States”); (ii) the facilities must be designed, constructed and operated to meet strict safety standards and (iii) the operator of a facility must extensively characterize the site on which the facility is located and analyze how the facility will perform for thousands of years into the future. Further, certain LLRW disposal sites are restricted from accepting Class B or C LLRW from generators located in states which do not have a formal agreement with the state in which the disposal facility is located (the “Compact”). Our facility may accept Class B or C LLRW from generators that are not located in a Compact.

Other commercial options are, and may in the future become, available for the disposal of Class B and C LLRW. One such option offered by one of our competitors is the “downblending” of Class B and C LLRW in order to permit the reclassification and disposal of this waste as Class A LLRW. WCS does not offer a downblending option to its customers, and WCS does not support downblending because we believe that direct disposal of Class B and C LLRW results in a more environmentally safe solution that is less complex and less likely to be subject to regulatory changes. In addition, the State of Texas does not permit LLRW to be reclassified as a result of downblending.

Regulatory and Environmental Matters

While the waste management industry has benefited from increased governmental regulation, it has also become subject to extensive and evolving regulation by federal, state and local authorities. The regulatory process requires waste management businesses to obtain and retain numerous operating permits covering various aspects of their operations, any of which could be subject to revocation, modification or denial. Regulations also allow public participation in the permitting process. Individuals as well as companies may oppose the granting of permits. In addition, governmental policies and the exercise of broad discretion by regulators are subject to change. It is possible

our ability to modify, obtain or retain permits on a timely basis could be impaired in the future. The loss of an individual permit or the failure to modify or obtain a permit could have a significant impact on our Waste Management Segment's future operating plans, financial condition, results of operations or liquidity, especially because we only operate one disposal site. For example, adverse decisions by governmental authorities on our permit applications could cause us to abandon projects, prematurely close our facility or restrict operations. See "Facility, Operations and Services" above for a discussion of some of our Waste Management Segment's permits. Our RCRA permit for the RCRA landfill renewal was filed in March 2015 and is under review. The TSCA authorization for the RCRA landfill and Federal LLRW disposal facility was filed in May 2015 and is under review. We believe our permits will be renewed in the ordinary course of business. Our byproduct material disposal license expires in 2018 and our LLRW disposal license expires in 2024. Our RCRA permit for the Federal LLRW disposal facility expires in 2018. Our LLRW treatment/storage license was combined into one license with our LLRW disposal license and now expires in 2024. Such permits, licenses and authorizations can be renewed subject to compliance with the requirements of the application process and approval by the TCEQ or the EPA, as applicable.

The Texas Low-Level Radioactive Waste Disposal Compact Commission (“Texas Compact Commission”) is responsible for managing the disposal capacity of the Compact LLRW disposal facility. They do this by approving or denying export petitions from Texas Compact generators that wish to ship their waste to a different disposal site or approving or denying import petitions from out-of-compact generators that wish to ship their waste to the Compact LLRW disposal facility. The Texas Compact Commission has approved rules for the export and import of LLRW and began approving import agreements in 2012.

From time to time federal, state and local authorities have proposed or adopted other types of laws and regulations for the waste management industry, including laws and regulations restricting or banning the interstate or intrastate shipment of certain waste, changing the regulatory agency issuing a license, imposing higher taxes on out-of-state waste shipments compared to in-state shipments, reclassifying certain categories of hazardous waste as non-hazardous and regulating disposal facilities as public utilities. Certain states have issued regulations that attempt to prevent waste generated within a particular Compact from being sent to disposal sites outside that Compact. The U.S. Congress has also considered legislation that would enable or facilitate such bans, restrictions, taxes and regulations. Due to the complex nature of industry regulation, implementation of existing or future laws and regulations by different levels of government could be inconsistent and difficult to foresee. While we attempt to monitor and anticipate regulatory, political and legal developments that affect the industry, we cannot assure you we will be able to comply with such developments. Nor can we predict the extent to which legislation or regulations that may be enacted, or any failure of legislation or regulations to be enacted, may affect our operations in the future.

The demand for certain hazardous and radioactive waste services we intend to provide is dependent in large part upon the existence and enforcement of federal, state and local environmental laws and regulations governing the discharge of those wastes into the environment. We and the industry as a whole could be adversely affected to the extent such laws or regulations are amended or repealed or their enforcement is lessened.

Because of the high degree of public awareness of environmental issues, companies in the waste management business may be, in the normal course of their business, subject to judicial and administrative proceedings. Governmental agencies may seek to impose fines or revoke, deny renewal of, or modify any applicable operating permits or licenses. In addition, private parties and special interest groups could bring actions against us alleging, among other things, a violation of operating permits or opposition or challenges to current or new license authorizations.

Employees

At December 31, 2015, WCS had 196 employees. We believe our labor relations are good.

REAL ESTATE MANAGEMENT AND DEVELOPMENT SEGMENT—BASIC MANAGEMENT, INC. AND THE LANDWELL COMPANY

Business Overview

We acquired a controlling interest in our Real Estate Management and Development Segment in December 2013. Prior to December 2013, we owned a 32% interest in BMI, which among other things provides utility services to an industrial park located in Henderson, Nevada, and is responsible for the delivery of water to the city of Henderson and various other users through a water distribution system owned by BMI. We also had a 12% interest in LandWell, which is actively engaged in efforts to develop certain real estate in Henderson, Nevada including approximately 2,100 acres zoned for residential/planned community purposes and approximately 400 acres zoned for commercial and light industrial use. BMI owns an additional 50% interest in LandWell. In December 2013 we completed the acquisition of an additional 31% ownership interest in BMI and 15% ownership interest in LandWell. We completed

this acquisition to obtain control of BMI and LandWell (with the consent of BMI and LandWell and their other owners), which increased our direct ownership interest of BMI to 63% and our direct ownership of LandWell to 27%, which also resulted in our control of 77% of LandWell including the 50% ownership interest held by BMI. See Notes 3 and 7 to our Consolidated Financial Statements.

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Operations and Services

Over the years, LandWell and BMI have focused on developing and selling the land transferred to LandWell as part of its formation in the early 1950's as well as additional land holdings acquired by LandWell in the surrounding area subsequent to LandWell's formation (although BMI and LandWell have not had significant real property acquisitions since 2004). Since LandWell's formation, LandWell and BMI have a history of successfully developing and selling over 1,200 acres of retail, light industrial, commercial and residential projects in the Henderson, Nevada area. However, a substantial portion of such projects, had been completed prior to the 2008 economic downturn which was particularly acute in the Las Vegas area real estate market which includes Henderson. Following such economic downturn, LandWell's land sales were substantially reduced as compared to prior years, and LandWell did not recognize any material amount of land sales in the 2008 to 2013 time period. During this time period, LandWell focused primarily on the development of a large tract of land in Henderson zoned for residential/planned community purposes (approximately 2,100 acres). Planning and zoning work on such project began in 2007, but LandWell delayed significant development efforts until economic conditions had improved. As general economic conditions improved in 2011 and 2012, LandWell began intensive development efforts of the residential/planned community in 2013 (with LandWell acting as the master developer for all such development efforts). We market and sell our residential/planned community to established home builders in tracts of land that are pre-zoned for a maximum number of home lots. We support the builders efforts to market and sell specific residential homes within our residential/planned community through joint marketing campaign and community wide education efforts.

In addition, BMI delivers utility services to an industrial park located in Henderson, Nevada and also delivers water to the city of Henderson and various other users through a water delivery system owned by BMI.

Sales

Through December 31, 2015, LandWell has closed or entered into escrow on approximately 410 acres of the residential/planned community and certain other acreage. Contracts for land sales are negotiated on an individual basis and sales terms and prices will vary based on such factors as location (including location within a planned community), expected development work and individual buyer needs. Although land may be under contract, we do not recognize revenue until we have satisfied the criteria for revenue recognition set forth in Accounting Standards Codification ("ASC") Topic 976. In some instances, we will receive cash proceeds at the time the contract closes and record deferred revenue for some or all of the cash amount received, with such deferred revenue being recognized in subsequent periods. Because land held for development was initially recognized at estimated fair value at the acquisition date as required by ASC Topic 805, we do not expect to recognize significant operating income on land sales for the land currently under contract. We expect the development work to continue for 10 to 15 years on the rest of the land held for development, consisting primarily of the residential/planned community.

Our Real Estate Management and Development Segment's sales consist principally of land sales and water and electric delivery fees. During 2015 we had sales to four customers that each exceeded 10% of our net sales: Richmond Homes of Nevada (27%), LV East Gibson, LLC (17%) and Prologis, L.P. (11%) all relate to land sales; the City of Henderson (15%) relates to our water delivery services.

Competition

There are multiple new construction residential communities in the greater Las Vegas, Nevada area. We compete with these communities on the basis of location; planned community amenities and features; proximity to major retail and recreational activities; and the perception of quality of life within the new community. We believe our residential/planned community is unique within the greater Las Vegas area due to its location and planned amenities which include: 490 acres of major and neighborhood parks and open space interconnected with major regional trails

and parks; and features that no other new construction residential community currently offers including builder floorplans designed exclusively for our community. We are marketing our residential/planned community to builders who target a range of home buyers to maximize sales.

Regulatory and Environmental Matters

We and the subcontractors we use must comply with many federal, state and local laws and regulations, including zoning, density and development requirements, building, environmental, advertising, labor and real estate sales rules and regulations. These regulations and requirements affect substantially all aspects of our land development. Our operations are subject to federal, state and local laws and regulations relating to the use, storage, handling, generation, transportation, treatment, emission, discharge, disposal, remediation of and exposure to hazardous and non-hazardous substances, materials and wastes. Our operations also are subject to federal, state and local laws and regulations relating to worker health and safety. We believe we are in substantial compliance with all such laws and regulations. To date, the costs of maintaining compliance with such laws and regulations have not significantly impacted our results. We currently do not anticipate any significant costs or expenses relating to such matters; however, it is possible future laws and regulations may require us to incur significant additional expenditures.

Employees

At December 31, 2015, BMI had 24 employees. We believe our labor relations are good.

OTHER

NL Industries, Inc.—At December 31, 2015, NL owned 87% of CompX and 30% of Kronos. NL also owns 100% of EWI RE, Inc., an insurance brokerage and risk management services company and also holds certain marketable securities and other investments. See Note 16 to our Consolidated Financial Statements for additional information.

Tremont LLC—Tremont is primarily a holding company through which we hold our 63% ownership interest in BMI and our 77% ownership interest in LandWell. Such 77% ownership interest in LandWell includes 27% we hold through our ownership of Tremont and 50% held by a subsidiary of BMI. Tremont also owns 100% of Tall Pines Insurance Company, an insurance company that also holds certain marketable securities and other investments. See Note 16 to our Consolidated Financial Statements.

In addition, we also own real property related to certain of our former business units.

Business Strategy—We routinely compare our liquidity requirements and alternative uses of capital against the estimated future cash flows to be received from our subsidiaries and unconsolidated affiliates, and the estimated sales value of those businesses. As a result, we have in the past, and may in the future, seek to raise additional capital, refinance or restructure indebtedness, repurchase indebtedness in the market or otherwise, modify our dividend policy, consider the sale of an interest in our subsidiaries, business units, marketable securities or other assets, or take a combination of these or other steps, to increase liquidity, reduce indebtedness and fund future activities, which have in the past and may in the future involve related companies. From time to time, we and our related entities consider restructuring ownership interests among our subsidiaries and related companies. We expect to continue this activity in the future.

We and other entities that may be deemed to be controlled by or affiliated with Ms. Simmons and Ms. Connelly routinely evaluate acquisitions of interests in, or combinations with, companies, including related companies, we perceive to be undervalued in the marketplace. These companies may or may not be engaged in businesses related to our current businesses. In some instances we actively manage the businesses we acquire with a focus on maximizing return-on-investment through cost reductions, capital expenditures, improved operating efficiencies, selective marketing to address market niches, disposition of marginal operations, use of leverage and redeployment of capital to more productive assets. In other instances, we have disposed of our interest in a company prior to gaining control. We intend to consider such activities in the future and may, in connection with such activities, consider issuing additional equity securities and increasing our indebtedness.

Website and Available Information—Our fiscal year ends December 31. We furnish our stockholders with annual reports containing audited financial statements. In addition, we file annual, quarterly and current reports, proxy and information statements and other information with the SEC. Certain of our consolidated subsidiaries (Kronos, NL and CompX) also file annual, quarterly and current reports, proxy and information statements and other information with the SEC. We also make our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments thereto, available free of charge through our website at www.valhi.net as soon as reasonably practical after they have been filed with the SEC. We also provide to anyone, without charge, copies of such documents upon written request. Requests should be directed to the attention of the Corporate Secretary at our address on the cover page of this Form 10-K.

Additional information, including our Audit Committee charter, our Code of Business Conduct and Ethics and our Corporate Governance Guidelines, can also be found on our website. Information contained on our website is not part of this Annual Report.

The general public may read and copy any materials we file with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. We are an electronic filer. The SEC maintains an Internet website at www.sec.gov that contains reports, proxy and information statements and other information regarding issuers, such as us, that file electronically with the SEC.

ITEM 1A. RISK FACTORS

Listed below are certain risk factors associated with us and our businesses. See also certain risk factors discussed in Item 7 — “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Critical Accounting Policies and Estimates.” In addition to the potential effect of these risk factors, any risk factor which could result in reduced earnings or increased operating losses, or reduced liquidity, could in turn adversely affect our ability to service our liabilities or pay dividends on our common stock or adversely affect the quoted market prices for our securities.

Our assets consist primarily of investments in our operating subsidiaries, and we are dependent upon distributions from our subsidiaries to service our liabilities.

The majority of our operating cash flows are generated by our operating subsidiaries, and our ability to service liabilities and to pay dividends on our common stock depends to a large extent upon the cash dividends or other distributions we receive from our subsidiaries. Our subsidiaries are separate and distinct legal entities and they have no obligation, contingent or otherwise, to pay such cash dividends or other distributions to us. In addition, the payment of dividends or other distributions from our subsidiaries could be subject to restrictions on, or taxation of, dividends or repatriation of earnings under applicable law, monetary transfer restrictions, currency exchange regulations in jurisdictions in which our subsidiaries operate or any other restrictions imposed by current or future agreements to which our subsidiaries may be a party, including debt instruments. Events beyond our control, including changes in general business and economic conditions, could adversely impact the ability of our subsidiaries to pay dividends or make other distributions to us. If our subsidiaries were to become unable to make sufficient cash dividends or other distributions to us, our ability to service our liabilities and to pay dividends on our common stock could be adversely affected.

In addition, a significant portion of our assets consist of ownership interests in our subsidiaries. If we were required to liquidate any of such securities in order to generate funds to satisfy our liabilities, we may be required to sell such securities at a time or times at which we would not be able to realize what we believe to be the long-term value of such assets.

Demand for, and prices of, certain of our products are influenced by changing market conditions for our products, which may result in reduced earnings or operating losses.

Approximately 90% of our Chemicals Segment’s revenues are attributable to sales of TiO₂. Pricing within the global TiO₂ industry over the long term is cyclical and changes in economic conditions, especially in Western industrialized nations, can significantly impact our earnings and operating cash flows. Historically, the markets for many of our products have experienced alternating periods of increasing and decreasing demand. Relative changes in the selling prices for our products are one of the main factors that affect the level of our profitability. In periods of increasing demand, our selling prices and profit margins generally will tend to increase, while in periods of decreasing demand our selling prices and profit margins generally tend to decrease. In addition, pricing may affect customer inventory levels as customers may from time to time accelerate purchases of TiO₂ in advance of anticipated price increases or defer purchases of TiO₂ in advance of anticipated price decreases. Our ability to further increase capacity without additional investment in greenfield or brownfield capacity increases may be limited and as a result, our profitability may become even more dependent upon the selling prices of our products.

The TiO₂ industry is concentrated and highly competitive and we face price pressures in the markets in which we operate, which may result in reduced earnings or operating losses.

The global market in which we operate our Chemicals Segment’s business is concentrated with the top five TiO₂ producers accounting for over 50% of the world’s production capacity and is highly competitive. Competition is based

on a number of factors, such as price, product quality and service. Some of our competitors may be able to drive down prices for our products if their costs are lower than our costs. In addition, some of our competitors' financial, technological and other resources may be greater than our resources and such competitors may be better able to withstand changes in market conditions. Our competitors may be able to respond more quickly than we can to new or emerging technologies and changes in customer requirements. Further, consolidation of our competitors or customers may result in reduced demand for our products or make it more difficult for us to compete with our competitors. The occurrence of any of these events could result in reduced earnings or operating losses.

Higher costs or limited availability of our raw materials may reduce our earnings and decrease our liquidity. In addition, many of our raw material contracts contain fixed quantities we are required to purchase.

The number of sources for and availability of certain raw materials is specific to the particular geographical region in which a facility is located. For example, titanium-containing feedstocks suitable for use in our Chemicals Segment's TiO₂ facilities are available from a limited number of suppliers around the world. Political and economic instability in the countries from which we purchase our raw material supplies could adversely affect their availability. If our worldwide vendors were unable to meet their contractual obligations and we were unable to obtain necessary raw materials, we could incur higher costs for raw materials or may be required to reduce production levels. We experienced significantly higher ore costs in 2012 which carried over into 2013. We have

seen moderation in the purchase cost of third-party feedstock ore in 2013 and throughout 2014 and 2015, but such reductions did not begin to be significantly reflected in our cost of sales until the third quarter of 2013. We may also experience higher operating costs such as energy costs, which could affect our profitability. We may not always be able to increase our selling prices to offset the impact of any higher costs or reduced production levels, which could reduce our earnings and decrease our liquidity.

Our Chemicals Segment has long-term supply contracts that provide for our TiO₂ feedstock requirements that currently expire through 2019. While we believe we will be able to renew these contracts, there can be no assurance we will be successful in renewing these contracts or in obtaining long-term extensions to these contracts prior to expiration. Our current agreements (including those entered into through February 2016) require us to purchase certain minimum quantities of feedstock with minimum purchase commitments aggregating approximately \$865 million in years subsequent to December 31, 2015. In addition, we have other long-term supply and service contracts that provide for various raw materials and services. These agreements require us to purchase certain minimum quantities or services with minimum purchase commitments aggregating approximately \$147 million at December 31, 2015. Our commitments under these contracts could adversely affect our financial results if we significantly reduce our production and were unable to modify the contractual commitments.

Certain of the raw materials used in our Component Products Segment's products are commodities that are subject to significant fluctuations in price in response to world-wide supply and demand as well as speculative investor activity. Zinc and brass are the principal raw materials used in the manufacture of security products. Stainless steel tubing is the major raw material used in the manufacture of marine exhaust systems. These raw materials are purchased from several suppliers and are generally readily available from numerous sources. We occasionally enter into short-term raw material supply arrangements to mitigate the impact of future increases in commodity-related raw material costs. Materials purchased outside of these arrangements are sometimes subject to unanticipated and sudden price increases. Should our vendors not be able to meet their contractual obligations or should we be otherwise unable to obtain necessary raw materials, we may incur higher costs for raw materials or may be required to reduce production levels, either of which may decrease our liquidity as we may be unable to offset the higher costs with increases in our selling prices or reductions in other operating costs.

We could incur significant costs related to legal and environmental remediation matters.

NL formerly manufactured lead pigments for use in paint. NL and others have been named as defendants in various legal proceedings seeking damages for personal injury, property damage and governmental expenditures allegedly caused by the use of lead-based paints. These lawsuits seek recovery under a variety of theories, including public and private nuisance, negligent product design, negligent failure to warn, strict liability, breach of warranty, conspiracy/concert of action, aiding and abetting, enterprise liability, market share or risk contribution liability, intentional tort, fraud and misrepresentation, violations of state consumer protection statutes, supplier negligence and similar claims. The plaintiffs in these actions generally seek to impose on the defendants responsibility for lead paint abatement and health concerns associated with the use of lead-based paints, including damages for personal injury, contribution and/or indemnification for medical expenses, medical monitoring expenses and costs for educational programs. As with all legal proceedings, the outcome is uncertain. Any liability we might incur in the future could be material. See also Item 3 - "Legal Proceedings - Lead Pigment Litigation - NL."

Certain properties and facilities used in NL's former operations are the subject of litigation, administrative proceedings or investigations arising under various environmental laws. These proceedings seek cleanup costs, personal injury or property damages and/or damages for injury to natural resources. Some of these proceedings involve claims for substantial amounts. Environmental obligations are difficult to assess and estimate for numerous reasons, and we may incur costs for environmental remediation in the future in excess of amounts currently estimated. Any liability we might incur in the future could be material. See also Item 3 - "Legal Proceedings - Environmental Matters and

Litigation.”

Many of the markets in which our Component Products Segment operates are mature and highly competitive resulting in pricing pressure and the need to continuously reduce costs.

Many of the markets our Component Products Segment serves are highly competitive, with a number of competitors offering similar products. We focus our efforts on the middle and high-end segment of the market where we feel that we can compete due to the importance of product design, quality and durability to the customer. However, our ability to effectively compete is impacted by a number of factors. The occurrence of any of these factors could result in reduced earnings or operating losses.

- Competitors may be able to drive down prices for our products beyond our ability to adjust costs because their costs are lower than ours, especially products sourced from Asia.
- Competitors’ financial, technological and other resources may be greater than our resources, which may enable them to more effectively withstand changes in market conditions.

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- Competitors may be able to respond more quickly than we can to new or emerging technologies and changes in customer requirements.
- Consolidation of our competitors or customers in any of the markets in which we compete may result in reduced demand for our products.
- New competitors could emerge by modifying their existing production facilities to manufacture products that compete with our products.
- We may not be able to sustain a cost structure that enables us to be competitive.
- Customers may no longer value our product design, quality or durability over the lower cost products of our competitors.

Our development of innovative features for current products is critical to sustaining and growing our Component Product Segment's sales.

Historically, our Component Products Segment's ability to provide value-added custom engineered products that address requirements of technology and space utilization has been a key element of our success. We spend a significant amount of time and effort to refine, improve and adapt our existing products for new customers and applications. Since expenditures for these types of activities are not considered research and development expense under accounting principles generally accepted in the United States of America ("GAAP"), the amount of our research and development expenditures, which is not significant, is not indicative of the overall effort involved in the development of new product features. The introduction of new product features requires the coordination of the design, manufacturing and marketing of the new product features with current and potential customers. The ability to coordinate these activities with current and potential customers may be affected by factors beyond our control. While we will continue to emphasize the introduction of innovative new product features that target customer-specific opportunities, we do not know if any new product features we introduce will achieve the same degree of success that we have achieved with our existing products. Introduction of new product features typically requires us to increase production volume on a timely basis while maintaining product quality. Manufacturers often encounter difficulties in increasing production volumes, including delays, quality control problems and shortages of qualified personnel or raw materials. As we attempt to introduce new product features in the future, we do not know if we will be able to increase production volume without encountering these or other problems, which might negatively impact our financial condition or results of operations.

Failure to protect our intellectual property rights or claims by others that we infringe their intellectual property rights could substantially harm our business.

Our Component Products Segment relies on patent, trademark and trade secret laws in the United States and similar laws in other countries to establish and maintain our intellectual property rights in our technology and designs. Despite these measures, any of our intellectual property rights could be challenged, invalidated, circumvented or misappropriated. Others may independently discover our trade secrets and proprietary information, and in such cases we could not assert any trade secret rights against such parties. Further, we do not know if any of our pending trademark or patent applications will be approved. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our intellectual property rights. In addition, the laws of certain countries do not protect intellectual property rights to the same extent as the laws of the United States. Therefore, in certain jurisdictions, we may be unable to protect our technology and designs adequately against unauthorized third party use, which could adversely affect our competitive position.

Third parties may claim that we or our customers are infringing upon their intellectual property rights. Even if we believe that such claims are without merit, they can be time-consuming and costly to defend and distract our management's and technical staff's attention and resources. Claims of intellectual property infringement also might require us to redesign affected technology, enter into costly settlement or license agreements or pay costly damage awards, or face a temporary or permanent injunction prohibiting us from marketing or selling certain of our

technology. If we cannot or do not license the infringed technology on reasonable pricing terms or at all, or substitute similar technology from another source, our business could be adversely impacted.

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Our Waste Management Segment operates in a highly regulated industry, and third parties may from time to time seek to challenge our Waste Management Segment's licenses and permits. We may not be successful in obtaining new business to effectively operate our LLRW disposal facilities.

Our Waste Management Segment is required to comply with various federal, state and local regulations, as well as comply with the terms of our operating permits and licenses as they may be modified or amended. Failure to comply with any such regulation or permit requirements, or failure to obtain renewals, could adversely impact our operations. In addition, we must be successful in obtaining new business from our commercial and governmental customers in order to effectively operate our Compact and Federal LLRW disposal facilities. Third parties may from time to time seek to challenge our current operating licenses and permits. We do not know if we will be successful in obtaining such new business. Failure to obtain a sufficient amount of new business to effectively operate our LLRW disposal facilities could adversely impact our earnings and decrease our liquidity.

Our Real Estate Management and Development Segment owns a significant amount of real property in Henderson, Nevada. A prolonged downturn in the local real estate market in Nevada could negatively impact our ability to successfully complete the development of such real property.

A substantial portion of the revenues and assets associated with our Real Estate Management and Development Segment relate to certain real estate under development in Henderson, Nevada, including approximately 2,100 acres zoned for residential/planned community purposes and approximately 400 acres zoned for commercial and light industrial use. A prolonged downturn in the local real estate market in Nevada or other events could negatively impact our ability to successfully complete the development of such real property, either by requiring us to incur future development costs in excess of our current estimates, or by resulting in selling prices for future retail land sales lower than what we currently expect. If any of these events were to occur, revenue and profits in our Real Estate Management and Development segment may be significantly and negatively affected.

Our leverage may impair our financial condition or limit our ability to operate our businesses.

We have a significant amount of debt, primarily related to Kronos' term loan, our loan from Contran Corporation, our loans from Snake River Sugar Company and the WCS financing capital lease. As of December 31, 2015, our total consolidated debt was approximately \$960.5 million. Our level of debt could have important consequences to our stockholders and creditors, including:

- making it more difficult for us to satisfy our obligations with respect to our liabilities;
- increasing our vulnerability to adverse general economic and industry conditions;
- requiring that a portion of our cash flows from operations be used for the payment of interest on our debt, which reduces our ability to use our cash flow to fund working capital, capital expenditures, dividends on our common stock, acquisitions or general corporate requirements;
- limiting the ability of our subsidiaries to pay dividends to us;
- limiting our ability to obtain additional financing to fund future working capital, capital expenditures, acquisitions or general corporate requirements;
- limiting our flexibility in planning for, or reacting to, changes in our business and the industry in which we operate; and
- placing us at a competitive disadvantage relative to other less leveraged competitors.

In addition to our indebtedness, we are party to various lease and other agreements (including feedstock ore purchase contracts as previously described) pursuant to which, along with our indebtedness, we are committed to pay approximately \$524.6 million in 2016. Our ability to make payments on and refinance our debt and to fund planned capital expenditures depends on our future ability to generate cash flow. To some extent, this is subject to general economic, financial, competitive, legislative, regulatory and other factors that are beyond our control. In addition, our

ability to borrow funds under certain of our revolving credit facilities in the future will, in some instances, depend in part on these subsidiaries' ability to maintain specified financial ratios and satisfy certain financial covenants contained in the applicable credit agreement.

Our businesses may not generate cash flows from operating activities sufficient to enable us to pay our debts when they become due and to fund our other liquidity needs. As a result, we may need to refinance all or a portion of our debt before maturity. We may not be able to refinance any of our debt in a timely manner on favorable terms, if at all, in the current credit markets. Any inability to generate sufficient cash flows or to refinance our debt on favorable terms could have a material adverse effect on our financial condition.

Global climate change legislation could negatively impact our financial results or limit our ability to operate our businesses.

We operate production facilities in several countries. In many of the countries in which we operate, legislation has been passed, or proposed legislation is being considered, to limit greenhouse gases through various means, including emissions permits and/or energy taxes. In several of our production facilities, we consume large amounts of energy, primarily electricity and natural gas. To date, the permit system in effect in the various countries in which we operate has not had a material adverse effect on our financial results. However, if further greenhouse gas legislation were to be enacted in one or more countries, it could negatively impact our future results from operations through increased costs of production, particularly as it relates to our energy requirements or our need to obtain emissions permits. If such increased costs of production were to materialize, we may be unable to pass price increases onto our customers to compensate for increased production costs, which may decrease our liquidity, operating income and results of operations.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

We along with our subsidiaries: Kronos, CompX, WCS and NL lease office space through Contran for our principal executive offices in Dallas, Texas. Our BMI and LandWell subsidiaries' principal offices are in an owned building in Henderson, Nevada. A list of operating facilities for each of our subsidiaries is described in the applicable business sections of Item 1—"Business." We believe our facilities are generally adequate and suitable for their respective uses.

ITEM 3. LEGAL PROCEEDINGS

We are involved in various legal proceedings. In addition to information included below, certain information called for by this Item is included in Note 17 to our Consolidated Financial Statements, which is incorporated herein by reference.

Lead Pigment Litigation—NL

NL's former operations included the manufacture of lead pigments for use in paint and lead-based paint. NL, other former manufacturers of lead pigments for use in paint and lead-based paint (together, the "former pigment manufacturers"), and the Lead Industries Association ("LIA"), which discontinued business operations in 2002, have been named as defendants in various legal proceedings seeking damages for personal injury, property damage and governmental expenditures allegedly caused by the use of lead-based paints. Certain of these actions have been filed by or on behalf of states, counties, cities or their public housing authorities and school districts, and certain others have been asserted as class actions. These lawsuits seek recovery under a variety of theories, including public and private nuisance, negligent product design, negligent failure to warn, strict liability, breach of warranty, conspiracy/concert of action, aiding and abetting, enterprise liability, market share or risk contribution liability, intentional tort, fraud and misrepresentation, violations of state consumer protection statutes, supplier negligence and similar claims.

The plaintiffs in these actions generally seek to impose on the defendants responsibility for lead paint abatement and health concerns associated with the use of lead-based paints, including damages for personal injury, contribution and/or indemnification for medical expenses, medical monitoring expenses and costs for educational programs. To the extent the plaintiffs seek compensatory or punitive damages in these actions, such damages are generally unspecified. In some cases, the damages are unspecified pursuant to the requirements of applicable state law. A number of cases are inactive or have been dismissed or withdrawn. Most of the remaining cases are in various pre-trial stages. Some are on appeal following dismissal or summary judgment rulings or a trial verdict in favor of

either the defendants or the plaintiffs.

We believe that these actions are without merit, and we intend to continue to deny all allegations of wrongdoing and liability and to defend against all actions vigorously. We do not believe it is probable that we have incurred any liability with respect to all of the lead pigment litigation cases to which we are a party, and liability to us that may result, if any, in this regard cannot be reasonably estimated, because:

- we have never settled any of the market share, intentional tort, fraud, nuisance, supplier negligence, breach of warranty, conspiracy, misrepresentation, aiding and abetting, enterprise liability, or statutory cases,
- no final, non-appealable adverse verdicts have ever been entered against us, and
- we have never ultimately been found liable with respect to any such litigation matters, including over 100 cases over a twenty-year period for which we were previously a party and for which we have been dismissed without any finding of liability.

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Accordingly, we have not accrued any amounts for any of the pending lead pigment and lead-based paint litigation cases filed by or on behalf of states, counties, cities or their public housing authorities and school districts, or those asserted as class actions. In addition, we have determined that liability to us which may result, if any, cannot be reasonably estimated because there is no prior history of a loss of this nature on which an estimate could be made and there is no substantive information available upon which an estimate could be based.

In one of these lead pigment cases, in April 2000 NL was served with a complaint in County of Santa Clara v. Atlantic Richfield Company, et al; (Superior Court of the State of California, County of Santa Clara, Case No. 1-00-CV-788657) brought by a number of California government entities against the former pigment manufacturers, the LIA and certain paint manufacturers. The County of Santa Clara sought to recover compensatory damages for funds the plaintiffs had expended or would in the future expend for medical treatment, educational expenses, abatement or other costs due to exposure to, or potential exposure to, lead paint, disgorgement of profit, and punitive damages. In July 2003, the trial judge granted defendants' motion to dismiss all remaining claims. Plaintiffs appealed and the intermediate appellate court reinstated public nuisance, negligence, strict liability, and fraud claims in March 2006. A fourth amended complaint was filed in March 2011 on behalf of The People of California by the County Attorneys of Alameda, Ventura, Solano, San Mateo, Los Angeles and Santa Clara, and the City Attorneys of San Francisco, San Diego and Oakland. That complaint alleged that the presence of lead paint created a public nuisance in each of the prosecuting jurisdictions and seeks its abatement. In July and August 2013, the case was tried. In January 2014, the Judge issued a judgment finding NL, The Sherwin Williams Company and ConAgra Grocery Products Company jointly and severally liable for the abatement of lead paint in pre-1980 homes, and ordered the defendants to pay an aggregate \$1.15 billion to the people of the State of California to fund such abatement. In February 2014, we filed a motion for a new trial, and in March 2014 the court denied the motion. Subsequently in March 2014, NL filed a notice of appeal with the Sixth District Court of Appeal for the State of California and the appeal is proceeding with the appellate court. NL believes that this judgment is inconsistent with California law and is unsupported by the evidence, and we will defend vigorously against all claims.

The Santa Clara case is unusual in that this is the second time that an adverse verdict in the lead pigment litigation has been entered against NL (the first adverse verdict against NL was ultimately overturned on appeal). We have concluded that the likelihood of a loss in this case has not reached a standard of "probable" as contemplated by ASC 450, given (i) the substantive, substantial and meritorious grounds on which the adverse verdict in the Santa Clara case will be appealed, (ii) the uniqueness of the Santa Clara verdict (i.e. no final, non-appealable verdicts have ever been rendered against us, or any of the other former lead pigment manufacturers, based on the public nuisance theory of liability or otherwise), and (iii) the rejection of the public nuisance theory of liability as it relates to lead pigment matters in many other jurisdictions (no jurisdiction in which a plaintiff has asserted a public nuisance theory of liability has ever successfully been upheld). In addition, liability that may result, if any, cannot be reasonably estimated, as NL continues to have no basis on which an estimate of liability could be made, as discussed above. However, as with any legal proceeding, there is no assurance that any appeal would be successful, and it is reasonably possible, based on the outcome of the appeals process, that NL may in the future incur some liability resulting in the recognition of a loss contingency accrual that could have a material adverse impact on our results of operations, financial position and liquidity.

In June 2000, a complaint was filed in Illinois state court, Lewis, et al. v. Lead Industries Association, et al (Circuit Court of Cook County, Illinois, County Department, Chancery Division, Case No. 00CH09800.) Plaintiffs seek to represent two classes, one consisting of minors between the ages of six months and six years who resided in housing in Illinois built before 1978, and another consisting of individuals between the ages of six and twenty years who lived in Illinois housing built before 1978 when they were between the ages of six months and six years and who had blood lead levels of 10 micrograms/deciliter or more. The complaint seeks damages jointly and severally from the former pigment manufacturers and the LIA to establish a medical screening fund for the first class to determine blood lead levels, a medical monitoring fund for the second class to detect the onset of latent diseases and a fund for a public

education campaign. In April 2008, the trial court judge certified a class of children whose blood lead levels were screened venously between August 1995 and February 2008 and who had incurred expenses associated with such screening. In March 2012, the trial court judge decertified the class. In June 2012, the trial court judge granted plaintiffs the right to appeal his decertification order, and in August 2012 the appellate court granted plaintiffs permission to appeal. In March 2013, the appellate court agreed with the trial court's rationale regarding legislative requirements to screen children's blood lead levels and remanded the case for further proceedings in the trial court. In July 2013, plaintiffs moved to vacate the decertification. In October 2013, the judge denied plaintiffs' motion to vacate the decertification of the class. In March 2014, plaintiffs filed a new class certification motion. In April 2015, a class was certified consisting of parents or legal guardians of children who lived in certain "high risk" areas in Illinois between August 18, 1995 and February 19, 2008, and incurred an expense or liability for having their children's blood lead levels tested.

In addition to the foregoing litigation, various legislation and administrative regulations have, from time to time, been proposed that seek to (a) impose various obligations on present and former manufacturers of lead pigment and lead-based paint with respect to asserted health concerns associated with the use of such products and (b) effectively overturn court decisions in which we and other pigment manufacturers have been successful. Examples of such proposed legislation include bills which would permit civil liability for damages on the basis of market share, rather than requiring plaintiffs to prove that the defendant's product caused the

alleged damage, and bills which would revive actions barred by the statute of limitations. While no legislation or regulations have been enacted to date that are expected to have a material adverse effect on our consolidated financial position, results of operations or liquidity, the imposition of market share liability or other legislation could have such an effect.

New cases may continue to be filed against us. We cannot assure you that we will not incur liability in the future in respect of any of the pending or possible litigation in view of the inherent uncertainties involved in court and jury rulings. In the future, if new information regarding such matters becomes available to us (such as a final, non-appealable adverse verdict against us or otherwise ultimately being found liable with respect to such matters), at that time we would consider such information in evaluating any remaining cases then-pending against us as to whether it might then have become probable we have incurred liability with respect to these matters, and whether such liability, if any, could have become reasonably estimable. The resolution of any of these cases could result in the recognition of a loss contingency accrual that could have a material adverse impact on our net income for the interim or annual period during which such liability is recognized and a material adverse impact on our consolidated financial condition and liquidity.

Environmental Matters and Litigation

Our operations are governed by various environmental laws and regulations. Certain of our businesses are and have been engaged in the handling, manufacture or use of substances or compounds that may be considered toxic or hazardous within the meaning of applicable environmental laws and regulations. As with other companies engaged in similar businesses, certain of our past and current operations and products have the potential to cause environmental or other damage. We have implemented and continue to implement various policies and programs in an effort to minimize these risks. Our policy is to maintain compliance with applicable environmental laws and regulations at all of our plants and to strive to improve environmental performance. From time to time, we may be subject to environmental regulatory enforcement under U.S. and non-U.S. statutes, the resolution of which typically involves the establishment of compliance programs. It is possible that future developments, such as stricter requirements of environmental laws and enforcement policies, could adversely affect our production, handling, use, storage, transportation, sale or disposal of such substances. We believe that all of our facilities are in substantial compliance with applicable environmental laws.

Certain properties and facilities used in NL's former operations, including divested primary and secondary lead smelters and former mining locations, are the subject of civil litigation, administrative proceedings or investigations arising under federal and state environmental laws and common law. Additionally, in connection with past operating practices, we are currently involved as a defendant, potentially responsible party ("PRP") or both, pursuant to CERCLA, and similar state laws in various governmental and private actions associated with waste disposal sites, mining locations, and facilities that we or our predecessors, our subsidiaries or their predecessors currently or previously owned, operated or used, certain of which are on the United States EPA's Superfund National Priorities List or similar state lists. These proceedings seek cleanup costs, damages for personal injury or property damage and/or damages for injury to natural resources. Certain of these proceedings involve claims for substantial amounts. Although we may be jointly and severally liable for these costs, in most cases we are only one of a number of PRPs who may also be jointly and severally liable, and among whom costs may be shared or allocated. In addition, we are also a party to a number of personal injury lawsuits filed in various jurisdictions alleging claims related to environmental conditions alleged to have resulted from our operations.

Obligations associated with environmental remediation and related matters are difficult to assess and estimate for numerous reasons including the:

- complexity and differing interpretations of governmental regulations;

- number of PRPs and their ability or willingness to fund such allocation of costs;
- financial capabilities of the PRPs and the allocation of costs among them;
- solvency of other PRPs;
- multiplicity of possible solutions;
 - number of years of investigatory, remedial and monitoring activity required;
- uncertainty over the extent, if any, to which our former operations might have contributed to the conditions allegedly giving rise to such personal injury, property damage, natural resource and related claims; and
- number of years between former operations and notice of claims and lack of information and documents about the former operations.

In addition, the imposition of more stringent standards or requirements under environmental laws or regulations, new developments or changes regarding site cleanup costs or the allocation of costs among PRPs, solvency of other PRPs, the results of future testing and analysis undertaken with respect to certain sites or a determination that we are potentially responsible for the release of hazardous substances at other sites, could cause our expenditures to exceed our current estimates. We cannot assure you that actual costs will not exceed accrued amounts or the upper end of the range for sites for which estimates have been made, and we cannot assure you that costs will not be incurred for sites where no estimates presently can be made. Further, additional environmental and related matters may arise in the future. If we were to incur any future liability, this could have a material adverse effect on our consolidated financial statements, results of operations and liquidity.

We record liabilities related to environmental remediation and related matters (including costs associated with damages for personal injury or property damage and/or damages for injury to natural resources) when estimated future expenditures are probable and reasonably estimable. We adjust such accruals as further information becomes available to us or as circumstances change. Unless the amounts and timing of such estimated future expenditures are fixed and reasonably determinable, we generally do not discount estimated future expenditures to their present value due to the uncertainty of the timing of the payout. We recognize recoveries of costs from other parties, if any, as assets when their receipt is deemed probable. At December 31, 2014 and 2015, we have not recognized any material receivables for recoveries.

We do not know and cannot estimate the exact time frame over which we will make payments for our accrued environmental and related costs. The timing of payments depends upon a number of factors, including but not limited to the timing of the actual remediation process; which in turn depends on factors outside of our control. At each balance sheet date, we estimate the amount of our accrued environmental and related costs which we expect to pay within the next twelve months, and we classify this estimate as a current liability. We classify the remaining accrued environmental costs as a noncurrent liability.

On a quarterly basis, we evaluate the potential range of our liability for environmental remediation and related costs at sites where we have been named as a PRP or defendant, including sites for which NL's wholly-owned environmental management subsidiary, NL Environmental Management Services, Inc., ("EMS"), has contractually assumed our obligations. At December 31, 2015, NL had accrued approximately \$113 million related to approximately 42 sites associated with remediation and related matters that we believe are at the present time and/or in their current phase reasonably estimable. The upper end of the range of reasonably possible costs to us for remediation and related matters for which we believe it is possible to estimate costs is approximately \$166 million, including the amount currently accrued.

We believe that it is not reasonably possible to estimate the range of costs for certain sites. At December 31, 2015, there were approximately 5 sites for which NL is not currently able to estimate a range of costs. For these sites, generally the investigation is in the early stages, and NL is unable to determine whether or not we actually had any association with the site, the nature of its responsibility, if any, for the contamination at the site and the extent of contamination at and cost to remediate the site. The timing and availability of information on these sites is dependent on events outside of our control, such as when the party alleging liability provides information to us. At certain of these previously inactive sites, NL has received general and special notices of liability from the EPA and/or state agencies alleging that we, sometimes with other PRPs, are liable for past and future costs of remediating environmental contamination allegedly caused by former operations. These notifications may assert that NL, along with any other alleged PRPs, are liable for past and/or future clean-up costs. As further information becomes available to us for any of these sites which would allow us to estimate a range of costs, we would at that time adjust our accruals. Any such adjustment could result in the recognition of an accrual that would have a material effect on our consolidated financial statements, results of operations and liquidity.

In June 2006, NL and several other PRPs received a Unilateral Administrative Order (UAO) from the EPA regarding a formerly-owned mine and milling facility located in Park Hills, Missouri. The Doe Run Company is the current owner of the site, which was purchased by a predecessor of Doe Run from us in approximately 1936. Doe Run is also named in the Order. In April 2008, the parties signed a definitive cost sharing agreement for sharing of the costs anticipated in connection with the order and in May 2008, the parties began work at the site as required by the UAO and in accordance with the cost sharing agreement. In the fourth quarter of 2010, NL reached its capped payment obligation under the cost sharing agreement with Doe Run. In the fourth quarter of 2013, Doe Run completed the remainder of the construction work. A Removal Action Report and Post-Removal Site Control plan is expected to be submitted to the EPA by Doe Run in 2016.

In June 2008, NL received a Directive and Notice to Insurers from the New Jersey Department of Environmental Protection (“NJDEP”) regarding the Margaret’s Creek site in Old Bridge Township, New Jersey. NJDEP alleged that a waste hauler transported waste from one of our former facilities for disposal at the site in the early 1970s. NJDEP referred the site to the EPA, and in November 2009, the EPA added the site to the National Priorities List under the name “Raritan Bay Slag Site.” In 2012, EPA notified NL of its potential liability at this site. In May 2013, EPA issued its Record of Decision for the site. In June 2013, NL filed a contribution suit under CERCLA and the New Jersey Spill Act titled NL Industries, Inc. v. Old Bridge Township, et al. (United States

District Court for the District of New Jersey, Civil Action No. 3:13-cv-03493-MAS-TJB) against the current owner, Old Bridge Township, and several federal and state entities NL alleges designed and operated the site and who have significant potential liability as compared to NL which is alleged to have been a potential source of material placed at the site by others. NL's suit also names certain former NL customers of the former NL facility alleged to be the source of some of the materials. In January 2014, EPA issued a UAO to NL for clean-up of the site based on the EPA's preferred remedy set forth in the Record of Decision. NL is in discussions with EPA about NL's performance of a defined amount of the work at the site and is otherwise taking actions necessary to respond to the UAO. If these discussions and actions are unsuccessful, NL will defend vigorously against all claims while continuing to seek contribution from other PRPs.

In September 2008, NL received a Special Notice letter from the EPA for liability associated with the Tar Creek Superfund site in Ottawa County, Oklahoma (Tar Creek) and a demand for related past and future costs. NL responded with a good-faith offer to pay certain of the EPA's past costs and to complete limited work in the areas in which NL operated. In October 2008, NL received a claim from the State of Oklahoma for past, future and relocation costs in connection with the site. In November 2015, the United States Department of Justice lodged with the federal court a fully-executed consent decree between the United States, the State of Oklahoma and NL that resolves the claims of the United States and the State of Oklahoma for past and future cleanup costs at Tar Creek. The consent decree will become effective after it has been reviewed and officially approved by the federal court.

In August 2009, NL was served with a complaint in Raritan Baykeeper, Inc. d/b/a NY/NJ Baykeeper et al. v. NL Industries, Inc. et al. (United States District Court, District of New Jersey, Case No. 3:09-cv-04117). This is a citizen's suit filed by two local environmental groups pursuant to the Resource Conservation and Recovery Act and the Clean Water Act against NL, current owners, developers and state and local government entities. The complaint alleges that hazardous substances were and continue to be discharged from NL's former Sayreville, New Jersey property into the sediments of the adjacent Raritan River. The former Sayreville site is currently being remediated by owner/developer parties under the oversight of the NJDEP. The plaintiffs seek a declaratory judgment, injunctive relief, imposition of civil penalties and an award of costs. NL has denied liability and will defend vigorously against all claims.

In June 2011, NL was served in ASARCO LLC v. NL Industries, Inc., et al. (United States District Court, Western District of Missouri, Case No. 4:11-cv-00138-DGK). The plaintiff brought this CERCLA contribution action against several defendants to recover a portion of the amount it paid in settlement with the U.S. Government during its Chapter 11 bankruptcy in relation to the Tar Creek site, the Cherokee County Superfund Site in southeast Kansas, the Oronogo-Duenweg Lead Mining Belt Superfund Site in Jasper County, Missouri and the Newton County Mine Tailing Site in Newton County, Missouri. NL has denied liability and will defend vigorously against all of the claims. In the second quarter of 2012, NL filed a motion to stay the case. In the first quarter of 2013, NL's motion was granted and the court entered an indefinite stay. In the first quarter of 2015, Asarco was granted permission to seek an interlocutory appeal of that stay order. In March 2015, the Eighth Circuit Court of Appeals denied Asarco's request for an interlocutory appeal of the stay order and the trial court's indefinite stay remains in place.

In September 2011, NL was served in ASARCO LLC v. NL Industries, Inc., et al. (United States District Court, Eastern District of Missouri, Case No. 4:11-cv-00864). The plaintiff brought this CERCLA contribution action against several defendants to recover a portion of the amount it paid in settlement with the U.S. Government during its Chapter 11 bankruptcy in relation to the Southeast Missouri Mining District. In May 2015, the trial court on its own motion entered an indefinite stay of the litigation. In June 2015, Asarco filed an appeal of the stay in the Eighth Circuit Court of Appeals. NL has moved to dismiss that appeal as improperly filed. In October 2015, the Eighth Circuit Court of Appeals granted NL's motion to dismiss Asarco's appeal and the trial court's indefinite stay remains in place.

In July 2012, NL was served in *EPEC Polymers, Inc., v. NL Industries, Inc.*, (United States District Court for the District of New Jersey, Case 3:12-cv-03842-PGS-TJB). The plaintiff, a landowner of property located across the Raritan River from NL's former Sayreville, New Jersey operation, claims that contaminants from NL's former Sayreville operation came to be located on its land. The complaint seeks compensatory and punitive damages and alleges, among other things, trespass, private nuisance, negligence, strict liability, and claims under CERCLA and the New Jersey Spill Act. NL has denied liability and will defend vigorously against all of the claims.

In March 2013, NL received Special Notice from EPA for Operable Unit 1, residential area, at the Big River Mine Tailings Superfund Site in St. Francois County, Missouri. The site encompasses approximately eight former mine and mill areas, only one of which is associated with former NL operations, as well as adjacent residential areas. NL initiated a dialog with EPA regarding a potential settlement for this operable unit.

In September 2013, EPA issued to NL and 34 other PRPs general notice of potential liability and a demand for payment of past costs and performance of a Remedial Design for the Gowanus Canal Superfund Site in Brooklyn, New York. In March 2014, EPA issued a UAO to NL and approximately 27 other PRPs for performance of the Remedial Design at the site. EPA contends that NL is liable as the alleged successor to the Doehler Die Casting Company, and therefore responsible for any potential contamination at the Site resulting from Doehler's ownership/operation of a warehouse and a die casting plant it owned 90 years ago. NL believes that it has no liability at the Site. NL is currently in discussions with EPA regarding a de minimis settlement and is otherwise taking actions necessary to respond to the UAO. If these discussions are unsuccessful, NL will continue to deny liability and will defend vigorously against all of the claims.

See also Item 1 "Regulatory and Environmental Matters" and Note 17 to our Consolidated Financial Statements.

Other—We have also accrued approximately \$7.4 million at December 31, 2015 for other environmental cleanup matters. This accrual is near the upper end of the range of our estimate of reasonably possible costs for such matters.

Other Litigation

In addition to the matters described above, we and our affiliates are also involved in various other environmental, contractual, product liability, patent (or intellectual property), employment and other claims and disputes incidental to present and former businesses. In certain cases, we have insurance coverage for these items, although we do not expect additional material insurance coverage for environmental claims.

We currently believe that the disposition of all claims and disputes, individually or in the aggregate, should not have a material adverse effect on our consolidated financial position, results of operations or liquidity beyond the accruals already provided.

Insurance Coverage Claims

NL is involved in certain legal proceedings with a number of its former insurance carriers regarding the nature and extent of the carriers' obligations to NL under insurance policies with respect to certain lead pigment and asbestos lawsuits. The issue of whether insurance coverage for defense costs or indemnity or both will be found to exist for our lead pigment and asbestos litigation depends upon a variety of factors and we cannot assure you that such insurance coverage will be available.

NL has agreements with four former insurance carriers pursuant to which the carriers reimburse it for a portion of our future lead pigment litigation defense costs, and one such carrier reimburses us for a portion of its future asbestos litigation defense costs. We are not able to determine how much we will ultimately recover from these carriers for defense costs incurred by us because of certain issues that arise regarding which defense costs qualify for reimbursement. While NL continues to seek additional insurance recoveries, we do not know if it will be successful in obtaining reimbursement for either defense costs or indemnity. Accordingly, we recognize insurance recoveries in income only when receipt of the recovery is probable and we are able to reasonably estimate the amount of the recovery. See Note 17 to our Consolidated Financial Statements.

NL has settled insurance coverage claims concerning environmental claims with certain of its principal former carriers. We do not expect further material settlements relating to environmental remediation coverage.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OR EQUITY SECURITIES

Common Stock and Dividends—Our common stock is listed and traded on the New York Stock Exchange (symbol: VHI). As of March 4, 2016, there were approximately 2,000 holders of record of our common stock. The following table sets forth the high and low closing per share sales prices for our common stock and dividends for the periods indicated. On March 4, 2016 the closing price of our common stock was \$1.59.

	High	Low	Cash dividends paid
Year ended December 31, 2014			
First Quarter	\$16.40	\$8.82	\$.05
Second Quarter	8.08	4.99	.02
Third Quarter	7.95	6.53	.02
Fourth Quarter	6.41	4.81	.02
Year ended December 31, 2015			
First Quarter	\$6.54	\$5.31	\$.02
Second Quarter	7.10	5.66	.02
Third Quarter	5.31	1.89	.02
Fourth Quarter	2.81	1.21	