

Durable Growth

2022 Annual Report



Vulcan
Materials Company

The logo for Vulcan Materials Company, featuring the word "Vulcan" in a large, bold, white sans-serif font, with "Materials Company" in a smaller, white sans-serif font directly below it. The logo is positioned in the bottom right corner of the page, overlaid on the industrial scene.

1902

Vulcan Detinning Company founded in Sewaren, New Jersey



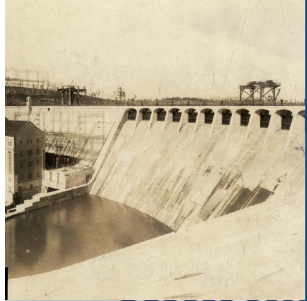
1909

Birmingham Slag Company founded in Birmingham, Alabama



1956

Birmingham Slag changes its name to Vulcan Materials Company and merges with Vulcan Detinning



Celebrating Sixty-Five Years

1957

65

2022

Vulcan Materials Company



VULCAN MATERIALS COMPANY



1957

With operations in seven states, Vulcan Materials company begins trading on the New York Stock Exchange



TODAY

Vulcan's footprint includes 22 states





Chairman's Letter to Shareholders

As I write this, Vulcan Materials Company has completed its 65th year as a publicly-traded company.

Vulcan is the nation's largest producer of an essential product that goes into nearly all construction projects: aggregates. The materials we produce—crushed stone, sand, and gravel, as well as asphalt and concrete—are used to build our nation's highways and public infrastructure, single-family homes, multi-family communities, manufacturing facilities, and distribution centers. We operate over 400 aggregates facilities in 22 states as well as targeted downstream asphalt and concrete operations in strategic markets.

Our people are—and always have been—our greatest asset. Across the board, our Vulcan teams delivered another year of strong results and created value for our shareholders through their hard work, consistent execution, and dedication. In 2022, our teams once again showcased the durable growth capabilities of our aggregates-led business model against a challenging backdrop, which included generational inflationary pressures, energy cost increases, labor challenges, supply chain constraints, and other macroeconomic headwinds. I am proud of them and grateful for their loyalty to one another and to Vulcan.

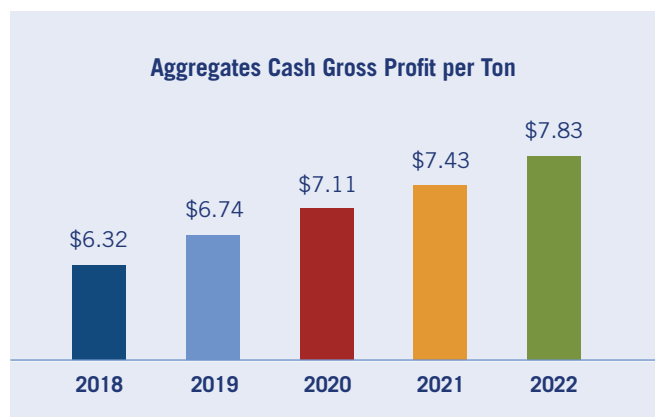
2022 FINANCIAL OVERVIEW

Our momentum is strong as we enter 2023. In 2022, we delivered a 32% increase in total revenue and a gross profit improvement of 13% versus 2021. We also delivered net earnings attributable to Vulcan of \$576 million and a record

DURABLE GROWTH:

Celebrating 65 Years of Vulcan Materials Company as a Public Company

\$1.626 billion in adjusted earnings before interest, taxes, depreciation, and amortization (Adjusted EBITDA, a non-GAAP measure), a 12% increase from the prior year. We improved our trailing-twelve month aggregates unit profitability in 18 of the last 20 quarters. In 2022, our aggregates gross profit per ton increased by 3%, and aggregates cash gross profit per ton (a non-GAAP measure) increased by 5% through disciplined cost control and widespread, double-digit pricing growth that outpaced inflationary cost pressures.



Vulcan's balance sheet is strong. We maintained our disciplined capital stewardship, ending the year with a net debt to Adjusted EBITDA ratio of 2.3 times. Our investment grade balance sheet, significant cash generation capabilities, and disciplined approach to capital allocation give us the capacity and flexibility to continue investing in both organic and inorganic growth opportunities that will improve shareholder returns and returns on invested capital.

2.3x

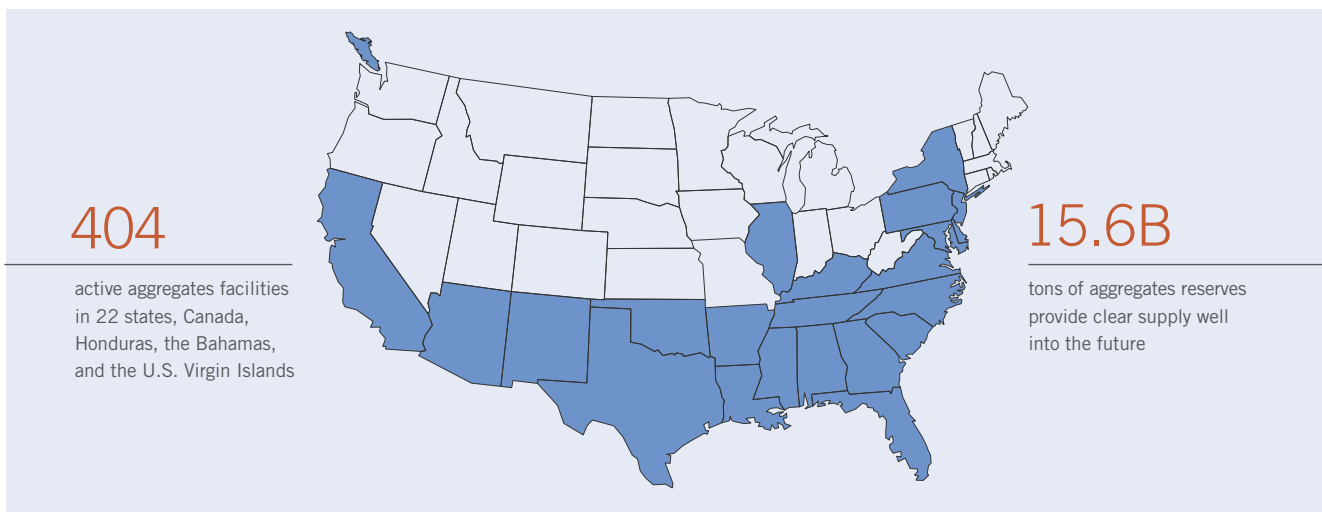
Net Debt to
Adjusted EBITDA

11 years

Weighted Average
Debt Maturity

4.8%

Weighted Average
Interest Rate



DELIVERING DURABLE GROWTH: THE RIGHT PEOPLE, PRODUCTS, MARKETS, AND FOCUS

Vulcan's durable growth is supported by focusing on fundamentals, controlling what we can control, never being satisfied, and maintaining disciplined execution against our growth strategy.

The Foundation: People

At the heart of Vulcan's success are our people. We focus on keeping them safe and healthy, attracting and retaining a diverse, skilled workforce, and providing opportunities for a long and fulfilling career.



The safety, health, and well-being of our employees is our top priority—as it always has been. Each day, our goal is to ensure everyone goes home safely and as healthy as they arrived at work. We are extremely proud of our world-class safety performance. We achieved an all-time company record

Mine Safety and Health Administration (MSHA) injury rate of 0.88 for Legacy Vulcan operations in 2022. When combined with our other business segments (asphalt and concrete), the overall MSHA reportable and Occupational Safety and Health Administration (OSHA) recordable rate for our Legacy Vulcan Operations was 0.89.



Continuous improvement is vital to safety. Historically, safety in the aggregates industry has been primarily focused on backward-looking metrics and accident prevention strategies. We made a fundamental change in our safety programs in 2021 to focus on risk prevention: we use forward-looking metrics and strategies to mitigate risk and help prevent accidents from occurring. Vulcan's systematic approach engages employees to help eliminate hazards and engineer risks out of tasks across 14 high-risk activities, includes quarterly assessments and executive reviews, and employs elimination and prevention tactics. As a result, incidents involving potentially serious injuries and fatalities decreased by 28% from the prior year.

Our commitment to the health and safety of our people goes beyond our operational safety efforts. We continued our COVID-19 paid leave program throughout 2022 to support employees who had or were living with or caring for loved ones with COVID-19. We emphasized the need to stay home when not feeling well, whether due to COVID-19, the flu, colds, or other illness. We continued to provide flexibility for our office-based employees to work from home, and we created a formal hybrid work program for individuals in qualified roles.



Mental health emerged as an area of even greater emphasis in 2022. The “Under the Hard Hat” campaign encouraged our workforce to use the employee assistance program to help cope with life's challenges.

Vulcan continues to recruit, develop, and grow the talent necessary to achieve long-term durable growth. This year, we intensified our recruiting efforts and leveraged mobile technologies, digital advertising, and social media engagement to bring diverse talent to the company. New hires now benefit from onboarding programs focused on our culture, which we call The Vulcan Way, and on what to expect in their roles.



The thoughts, perspectives, and backgrounds brought by diverse talent continue to have a positive impact on our organization.

Then, through ongoing training and coaching, they are able to make significant contributions to the company earlier in their careers.

Diversity and inclusion are a key part of The Vulcan Way. We are making headway on our diversity, equity, and inclusion (DE&I) goals, further enhancing our reputation of being a great place to work. In addition to increasing the diversity of management, as well as entry level operations and sales trainees, we focus on valuing their unique contributions to the company. In 2022, we fulfilled our commitment to provide unconscious bias training to all new employees and to current employees so that the thoughts, perspectives, and backgrounds of our diverse talent would have a positive impact on our organization.

By ensuring that our employees are safe and healthy, making them feel part of the Vulcan family, and valuing their unique contributions to the company, we create a productive work environment and value for our shareholders.

Aggregates: Essential Products in Growing Markets

We are focused on supplying the right products in the right markets. Our leadership in aggregates is at the core of our business. Aggregates are an essential product, with high barriers to entry, limited substitutes, and very favorable

Vulcan supplies aggregates for non-residential projects, such as the Protective Life Stadium, and for highway, public infrastructure and residential construction.



pricing characteristics. While our durable growth is built on aggregates, we also offer aggregates-intensive downstream products like asphalt and concrete in select markets where these products enhance our aggregates-driven returns throughout the cycle.

We operate in the most attractive markets in the United States. Today, 60% of the population lives within 60 miles of a Vulcan facility. Population growth drives aggregates demand, and we are where the population growth is: in 35 of the 50 highest growth metropolitan statistical areas across the country.

Within these markets, we supply our products to highways and other public infrastructure, as well as residential and non-residential construction projects. In 2022, we saw all four end-uses experience growth. Our pipeline of projects remains healthy, and the fundamental drivers for both private and public construction still point to future growth.

Highway projects increased sharply in 2022 driven by improvement in state funding and COVID-19 related funding programs. An additional \$70 billion in COVID-19 related public funding was made available for roads and bridges in the 2023 Omnibus Appropriations Act. We have just begun to see the impacts of the Infrastructure Investment and Jobs Act (IIJA): 41% of the \$853 billion in this new federal funding is going to aggregates-intensive projects like highways, roads, streets, and bridges.

Of course, the remainder of the IIJA's historic investment in public infrastructure also supports new construction that uses aggregates: drinking and wastewater systems; flood control; infrastructure resilience; navigable waterways, including locks, dams, and port infrastructure; rail ballast; airport and runway construction; and renewable energy generation facilities.

Private non-residential construction entered growth mode in 2022 as well. Starts in Vulcan markets were up 30%—three-times that of starts in non-Vulcan markets—emphasizing once again that we are where the growth is.



Although there are challenges, the underlying fundamentals of single-family construction in our markets are good: record low inventory, and higher population growth and household formation. In the next decade, it is estimated that 75% of population growth and 74% of household formations will occur in Vulcan-served states.

OUR FOCUS: DURABLE GROWTH

Our durable growth also comes from having the right strategic focus: a balance of organic growth, mergers and acquisitions, and greenfield developments. Together, this portfolio approach enables us to enhance our core and expand our reach. The result is an ability to grow our margins in tough times, not just in good times.

Enhancing Our Core

We drive organic growth and differentiate ourselves from other aggregates producers through our two strategic disciplines: the Vulcan Way of Selling (VWS) and the Vulcan Way of Operating (VWO).

With 22,000 customers delivering a wide variety of projects of all shapes, sizes, and end uses comes ample opportunity. The Vulcan Way of Selling uses technology, innovation, and process to seize that opportunity, win work, and capture value.

Custom, proprietary technology gives us real-time, forward-looking insight into all of our end markets. Coaching and development for our people, along with clear performance metrics and accountability, drive sales execution. Sales support teams take on the administrative and transactional

work and allow our sales representatives to focus on customers.

The Vulcan Way of Selling also enables us to capture the economic benefits of aggregates' outstanding pricing characteristics. In the first quarter, inflation hit hard. We went straight to work on price increases, reacting nimbly and offsetting inflationary impacts. Since rolling out VWS in 2017, our cumulative pricing growth has significantly outpaced our peers.

Vulcan also leads the industry in customer experience, which is reflected in our pricing growth. We deliver increased value to our customers through technology-enabled and solution-oriented selling. Our VWS logistics innovation capabilities use technologies to make our customers—and the truckers who service them—more productive.



Of course, pricing is only as good as what you take to the bottom line. That is where VWO shines. The Vulcan Way of Operating is the combination of tools, processes, and approaches used by our teams to drive value in our operations every day. By focusing on consistent execution, production efficiency, and controlling costs, Vulcan provides the highest quality material and the best service to our customers, and we can grow regardless of headwinds.

Technology plays a significant role in VWO. We have deployed production tracking technology tools that provide minute-to-minute visibility into our plants. That technology enables on-site plant managers and enterprise subject matter experts, who may be working in a different geography, to spot problems and opportunities and, in real time, combine their knowledge and experience to address challenges.

We are also delivering proprietary VWO training. This library of training includes insight and knowledge from our most experienced employees and information for how to inspect, maintain, and fine-tune our equipment. Our employees can access it anytime, anywhere on mobile devices.

Our VWO strategic sourcing capabilities paid dividends for Vulcan during the COVID-19 pandemic as we dealt with supply chain issues in 2022 and confronted generational inflation.

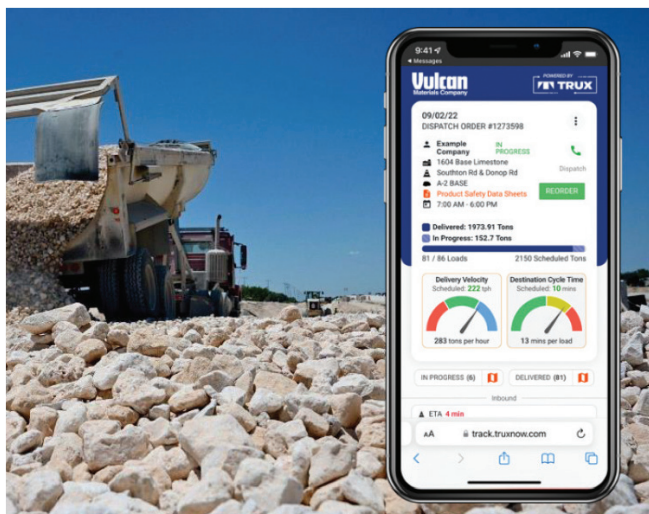
Our strategic disciplines, VWO and VWS, are about equipping our people with the knowledge and skills, and the right tools, technology, and processes, to stay safe, to produce more of the right tons at the right time, to service our customers, and to create value for our shareholders.

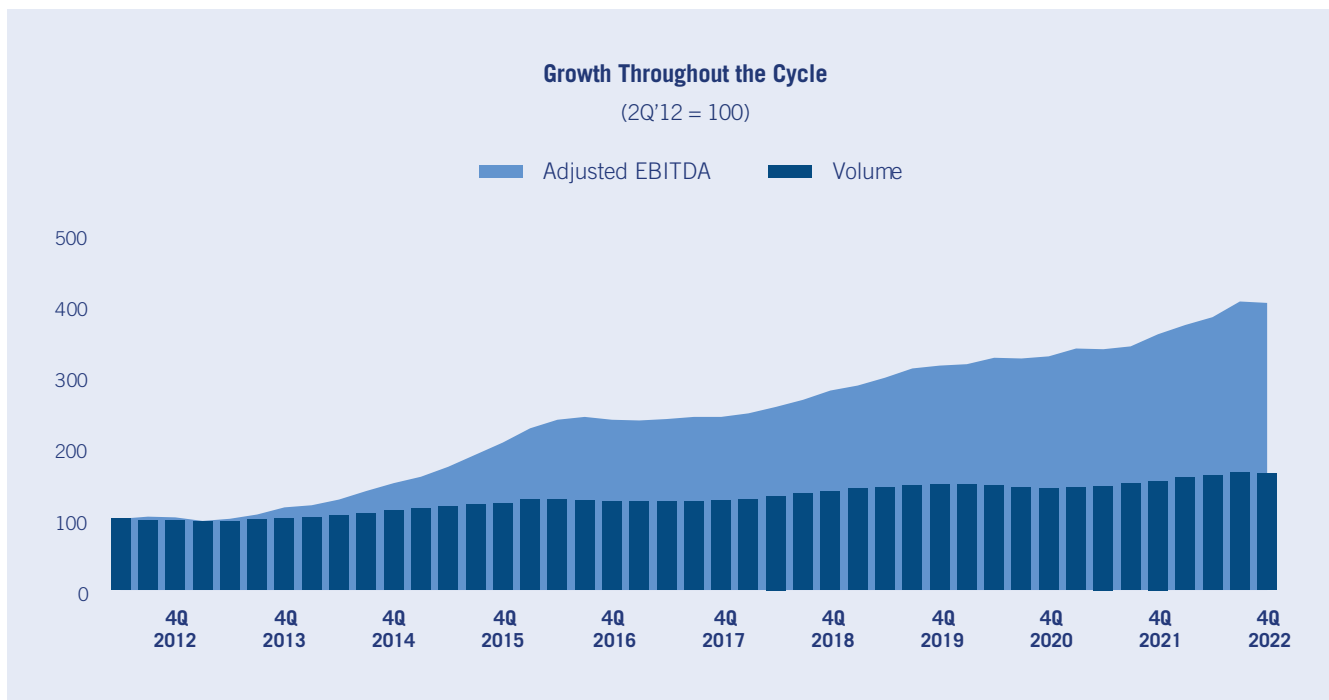


Expanding Our Reach

We also drive growth by expanding our reach through mergers and acquisitions. In an industry of over 5,000 companies that manage over 10,000 operations, there is ample opportunity for acquisition. We also continue to pursue greenfield development in anticipation of future growth. This is a challenging process, but one that allows us to control the timing of our investments. Our disciplined approach focuses on aggregates, aims to achieve a number one or number two position in the markets we serve, and strategically pursues downstream asphalt and concrete businesses complementary to our aggregates position in select markets.

It was our pleasure to welcome several new members to the Vulcan family this year. We made acquisitions in Texas, Virginia, California, and Honduras, adding 14 new aggregates operations to our footprint and nearly 260 million tons to our unparalleled reserves. Additionally, we took steps to optimize our asset portfolio consistent with our aggregates-focused business model. We divested of ready-mixed concrete assets in New York, New Jersey, and Pennsylvania, while retaining the aggregates operations in those states to serve as the foundation of our business in the northeastern United States.





RAISING THE BAR

Our disciplined approach to enhancing our core through VWO and VWS and expanding our reach through mergers and acquisitions and greenfield development has yielded consistent results and growth throughout the cycle.

Since the launch of our strategic disciplines in 2017—and during a time when construction activity faced the headwinds of a pandemic, labor shortages, supply chain constraints, elevated inflation, and numerous other disruptions—we have improved our Adjusted EBITDA at a compound annual growth rate of 11%. Consistent operational execution, cash generation, and disciplined capital allocation continued to drive our durable growth.

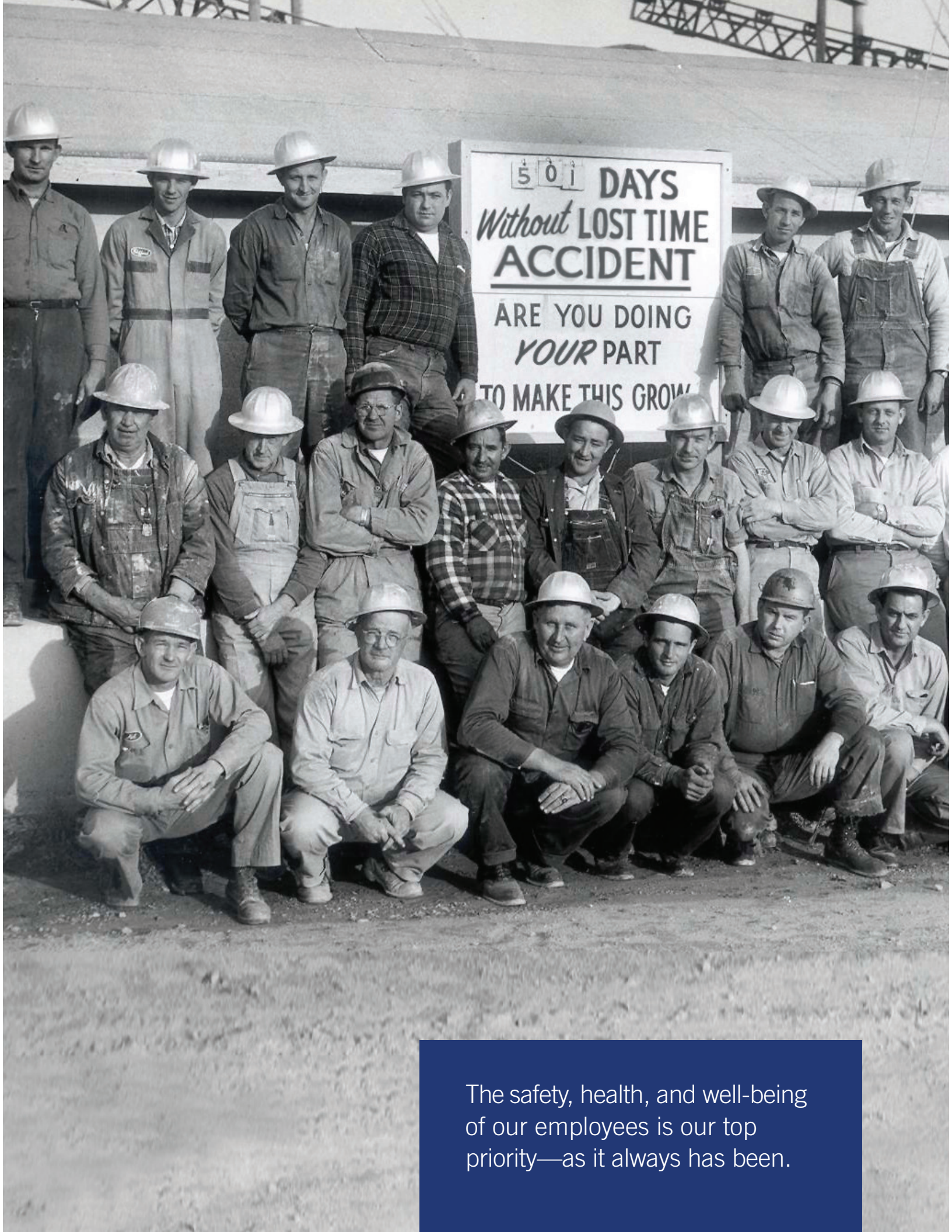
We are fiercely dedicated to continuous improvement, and we are confident in our ability to continue to grow our unit margins regardless of the challenges we may face. We set high expectations at our Investor Day last September: raising the bar from \$9 cash gross profit per ton at 230–240 million tons of aggregates to \$11–12 cash gross profit per ton when we reach 260–270 million tons.

Our momentum coming into 2023 is outstanding. With the right people, the right products, the right markets, and the right focus, Vulcan is the most compelling investment in the aggregates industry.

Once again, thank you to our employees. Our strong teams are keeping each other safe, harnessing the power of technology and innovation, servicing our customers, and enhancing our core business each and every day.

To our shareholders, we appreciate your confidence and investment in Vulcan Materials Company and look forward to delivering durable growth for years to come.

J. Thomas Hill
Chairman, President and Chief Executive Officer



The safety, health, and well-being of our employees is our top priority—as it always has been.

Management and Board Update

In 2022, Vulcan added experienced and committed leadership to its deep bench of the talented leaders who are driving Vulcan’s durable growth.



Lydia H. Kennard was elected to the Board of Directors in July and appointed to serve on the Audit and Safety, Health, and Environmental Affairs committees of the Board. She adds expertise to the Board in infrastructure construction management, pavement engineering,

and construction inspection. Ms. Kennard is the President and CEO of KDG Construction Consulting (KDG) and Quality Engineering Solutions (QES). She is also a founding principal of KDG Aviation, LLC, an operator and developer of general aviation facilities.



Krzysztof Soltan joined Vulcan Materials Company in the newly created role of Chief Information Officer. He brings 26 years of systems engineering, business intelligence, data solutions, application integration, enterprise resource planning, and enterprise IT solutions experience.

As CIO, Mr. Soltan oversees cybersecurity as well as the information technology, systems, and services strategies that underpin Vulcan’s operations and functional support organizations.



As previously announced, **Mary Andrews Carlisle** succeeded Suzanne Wood as Senior Vice President and Chief Financial Officer effective September 1.

Vulcan’s Construction Materials Group—the Company’s operating divisions—introduced new leaders in 2022. The Company reorganized its Mideast and Southeast Divisions to balance production and sales volumes, which better enables us to accelerate key operations and commercial initiatives and to utilize functional teams to support the growth of the organization without increasing staffing levels.

As a result of the reorganization, **Stephen Render** was promoted to Division President for the new Northeast Division. **Brian Pace**, formerly leading the Mideast Division, is now the East Division President. **Dean Sunas**, formerly Southeast Division President, is President of the newly-created South Division.

In addition, **Mitesh Shah** was elevated to Division President of the Southern & Gulf Coast Division, and **Brent Goodsell** was promoted to Division President of the Central Division.

Our Durable Growth Strategy

Vulcan is entering 2023 from a position of strength. Our balanced, two-pronged strategy positions the company for future growth and value creation. Our investment-grade balance sheet, significant cash generation capabilities, and disciplined capital allocation approach enable us to invest in organic and inorganic growth opportunities. Our constant focus is on improving shareholder returns and return on invested capital as we grow and optimize our portfolio.

In 2019, we set a target of \$9 of cash gross profit per ton on volumes of 230 to 240 million tons of aggregates (same-store). We achieved \$7.83 on shipments of 236 million tons (~224 million excluding U.S. Concrete acquired in 2021) at the end of 2022. Our durable growth strategy gives us confidence that we will deliver more value for our shareholders on every ton of aggregates we sell. Our new target: achieve \$11-12 cash gross profit per ton when we reach 260-270 million tons.

ACHIEVED

\$7.83

cash gross profit per ton on 236 million tons of aggregates

NEW TARGET

\$11-12

cash gross profit per ton on 260-270 million tons of aggregates



ENHANCING OUR CORE

The Vulcan Way of Selling and Vulcan Way of Operating are our organic growth engines. These strategic disciplines enhance our core and drive continuous improvement.

The **Vulcan Way of Selling** leads to faster growth than the rest of the industry. Commercial Excellence drives superior sales execution by developing our people and using technology, innovative tools, and analytics to generate powerful forward-looking data. Logistics Innovation makes Vulcan the supplier of choice for construction aggregates. Inventory management, delivery tracking, and online ordering make our customers' jobs easier.

The **Vulcan Way of Operating** leads to continuous improvement in our results no matter the point in the economic cycle. Operational Excellence drives productivity. We apply innovation, best practices, and training across our entire footprint to produce more of the right tons at the right time. Strategic Sourcing applies a comprehensive, data-driven approach to reduce the total cost of ownership for the right goods and services at the right time with the right quality.





EXPANDING OUR REACH

Vulcan has the most valuable aggregates franchise in the world due to our disciplined approach to expanding our reach. Three principles guide our portfolio management decisions.

Maintain and strengthen our foundation in aggregates.

Aggregates are essential to all types of construction. They are irreplaceable. The aggregates business has high barriers to entry and attractive pricing characteristics. There is ample opportunity to grow, as smaller, non-public companies produce two of every three tons of construction aggregates in the United States.

Take a leading position in high growth geographies.

Since 2016, Vulcan has added 74 aggregates operations to its portfolio through acquisitions and greenfield projects in existing and new markets. Our unparalleled footprint includes 35 of the top 50 highest growth metropolitan statistical areas in the United States.

Pursue downstream businesses complementary to our aggregates positions in select markets. Aggregates are an essential component of both asphalt and concrete. In well-structured markets with high barriers to entry, concrete and asphalt businesses can produce aggregates-like returns throughout the economic cycle.

Vulcan is uniquely positioned to create long-term, sustainable value with the right products, in the right markets, with the right focus from the right people.



Our Commitments Support Durable Growth

Doing the right thing, the right way, at the right time guides all that we do.

For over 65 years as a publicly-traded company, our commitments to safety, our people, environmental stewardship, and our neighbors and communities have been embedded in our culture and have evolved in support of durable growth.

SAFETY AND HEALTH

The safety, health, and well-being of our employees is our top priority. Our Vulcan Way culture encourages every employee to speak up about safety concerns, collaborate on improvements, and watch out for their coworkers as if they were their own family. Comprehensive safety and health training programs, ongoing employee engagement, risk prevention focus, and near-miss reporting support our world-class safety record.

313

triple-zero facilities with zero MSHA/OSHA injuries, MSHA citations and environmental citations

PEOPLE

In 2022, Vulcan launched several initiatives to enhance our ability to recruit a diverse workforce, retain our valuable employees, and offer paths for a lifelong career at Vulcan. At www.workforvulcan.com, prospective employees explore roles and learn what to expect on the job. Vulcan enhanced the onboarding process, enabling new employees to contribute meaningfully in the early stages of their careers. Expanded training and professional development opportunities support growth and development of employees at all levels and of all tenures, and include programs for individual contributors, first-line supervisors, and managers.

44%

of new hires in 2022 were diverse based on race and gender

ENVIRONMENTAL STEWARDSHIP

Environmental stewardship is a foundational element of our durable growth strategy. Efficient use of energy, land, and water resources, and management of the impacts on the environment in which we live and work, are embedded in our business planning and operations. Environmental stewardship supports durable growth by:

- increasing operational efficiency and reducing costs,
- creating new opportunities for growth, and
- managing risk.

Vulcan produces the lowest greenhouse gas emissions among public company aggregates producers: Vulcan does not produce cement. In 2022, Vulcan further refined our Scope 1 and 2 greenhouse gas emissions calculations, and we completed the first phase of our project to estimate Scope 3 greenhouse gas emissions, giving us additional insight into opportunities to improve efficiency, expand the use of renewable energy, and collaborate with our suppliers and customers.

NEIGHBORS & COMMUNITIES

Vulcan is committed to being a good neighbor and good citizen in the communities in which we operate. Two-way communication with stakeholders and neighbors, volunteer hours, financial contributions to support education, environmental stewardship, disaster recovery, civic and other charitable programs, and in-kind donation of construction materials to community projects are all ways we engage with our neighbors and communities and demonstrate our commitment to them.



**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-K**

- ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the Fiscal Year Ended **December 31, 2022**
OR
 TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the Transition Period From _____ to _____
Commission file number: **001-33841**

VULCAN MATERIALS COMPANY

(Exact Name of Registrant as Specified in Its Charter)

New Jersey
(State or other jurisdiction of incorporation or organization)
1200 Urban Center Drive, Birmingham, Alabama
(Address of Principal Executive Offices)

20-8579133
(I.R.S. Employer Identification No.)
35242
(Zip Code)

(205) 298-3000
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, \$1 par value	VMC	New York Stock Exchange

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

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

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

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted 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 such files). Yes No

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

Large accelerated filer Accelerated filer
Non-accelerated filer Smaller reporting company
Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b).

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

Aggregate market value of voting and non-voting common stock held by non-affiliates as of June 30, 2022: \$18,855,378,169

Number of shares of common stock, \$1.00 par value, outstanding as of February 14, 2023: 132,974,340

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's annual proxy statement for the annual meeting of its shareholders to be held on May 12, 2023, are incorporated by reference into Part III of this Annual Report on Form 10-K.

ANNUAL REPORT ON FORM 10-K FISCAL YEAR ENDED DECEMBER 31, 2022

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Unless otherwise stated or the context otherwise requires, references in this report to “Vulcan,” the “Company,” “we,” “our,” or “us” refer to Vulcan Materials Company and its consolidated subsidiaries.

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PART I

“SAFE HARBOR” STATEMENT UNDER THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995

Certain of the matters and statements made herein or incorporated by reference into this report constitute forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934. All such statements are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These statements reflect our intent, belief or current expectation. Often, forward-looking statements can be identified by the use of words, such as “anticipate,” “may,” “believe,” “estimate,” “project,” “expect,” “intend” and words of similar import. In addition to the statements included in this report, we may from time to time make other oral or written forward-looking statements in other filings under the Securities Exchange Act of 1934 or in other public disclosures. Forward-looking statements are not guarantees of future performance, and actual results could differ materially from those indicated by the forward-looking statements. All forward-looking statements involve certain assumptions, risks and uncertainties that could cause actual results to differ materially from those included in or contemplated by the statements. These assumptions, risks and uncertainties include, but are not limited to:

- general economic and business conditions
- a pandemic, epidemic or other public health emergency, such as the COVID-19 outbreak
- our dependence on the construction industry, which is subject to economic cycles
- the timing and amount of federal, state and local funding for infrastructure
- changes in the level of spending for private residential and private nonresidential construction
- changes in our effective tax rate
- the increasing reliance on information technology infrastructure, including the risks that the infrastructure does not work as intended, experiences technical difficulties or is subjected to cyber-attacks
- the impact of the state of the global economy on our businesses and financial condition and access to capital markets
- international business operations and relationships, including recent actions taken by the Mexican government with respect to our property and operations in that country
- the highly competitive nature of the construction industry
- the impact of future regulatory or legislative actions, including those relating to climate change, biodiversity, land use, wetlands, greenhouse gas emissions, the definition of minerals, tax policy and domestic and international trade
- the outcome of pending legal proceedings
- pricing of our products
- weather and other natural phenomena, including the impact of climate change and availability of water
- availability and cost of trucks, railcars, barges and ships, as well as their licensed operators, for transport of our materials
- energy costs
- costs of hydrocarbon-based raw materials
- healthcare costs
- labor relations, shortages and constraints
- the amount of long-term debt and interest expense we incur
- changes in interest rates
- volatility in pension plan asset values and liabilities, which may require cash contributions to the pension plans
- the impact of environmental cleanup costs and other liabilities relating to existing and/or divested businesses
- our ability to secure and permit aggregates reserves in strategically located areas
- our ability to manage and successfully integrate acquisitions
- the effect of changes in tax laws, guidance and interpretations
- significant downturn in the construction industry may result in the impairment of goodwill or long-lived assets
- changes in technologies, which could disrupt the way we do business and how our products are distributed

- the risks of open pit and underground mining
- expectations relating to environmental, social and governance considerations
- claims that our products do not meet regulatory requirements or contractual specifications
- the risks set forth in Item 1A “Risk Factors,” Item 3 “Legal Proceedings,” Item 7 “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and Note 12 “Commitments and Contingencies” to the consolidated financial statements in Item 8 “Financial Statements and Supplementary Data,” all as set forth in this report
- other assumptions, risks and uncertainties detailed from time to time in our filings made with the Securities and Exchange Commission

All forward-looking statements are made as of the date of filing or publication. We undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise, except to the extent required by law. Investors are cautioned not to rely unduly on such forward-looking statements when evaluating the information presented in our filings, and are advised to consult any of our future disclosures in filings made with the Securities and Exchange Commission and our press releases with regard to our business and consolidated financial position, results of operations and cash flows.

OUR MISSION

We are the company we are today thanks to the positive actions of our nearly 12,000 employees. We believe that doing the right thing is good for our business, our environment and our society. That’s our commitment.

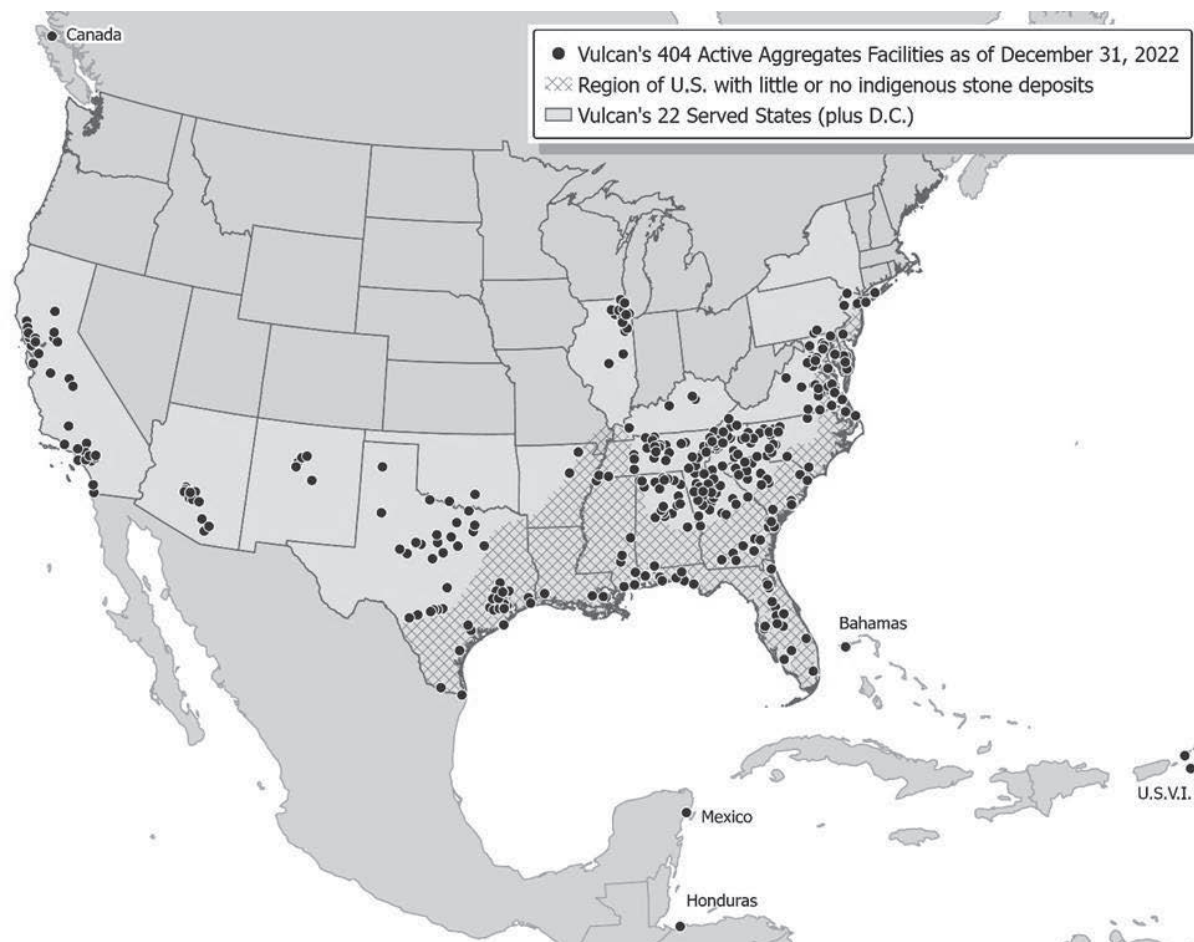
Our Mission

Provide quality products and services that consistently exceed our customers’ expectations. Be responsible stewards with respect to safety and the environmental impact of our operations and products. Drive value and superior returns for our customers, employees, communities and shareholders.

- We maintain the highest degree of respect for people — for their dignity, talents and interests. We believe that empowering, mentoring, training and rewarding our people helps create a highly engaged workforce, happy people and sustainable, long-term value.
- We act fairly and honorably to earn the respect and trust of all parties with whom we interact. We hold ourselves to high ethical standards, including abiding by both the letter and spirit of the laws and regulations related to our business.
- We are committed to excellence in all of our activities. We value innovation. We strive to maintain a position of leadership in all of our businesses.

DOING THE RIGHT THING, THE RIGHT WAY, AT THE RIGHT TIME. IT’S THE VULCAN WAY.

Vulcan Materials Company operates primarily in the U.S. and is the nation's largest supplier of construction aggregates (primarily crushed stone, sand and gravel) and a major producer of aggregates-based construction materials, including asphalt mix and ready-mixed concrete. We provide the basic materials for the infrastructure needed to maintain and expand the U.S. economy. Delivered by trucks, ships, barges and trains, our products are the indispensable materials building homes, offices, places of worship, schools, hospitals and factories, as well as vital infrastructure including highways, bridges, roads, ports and harbors, water systems, campuses, dams, airports and rail networks. As of December 31, 2022, we had 404 active aggregates facilities as shown below.



For additional information regarding our Calica operations in Mexico, see Note 12 "Commitments and Contingencies" in Item 8 "Financial Statements and Supplementary Data."

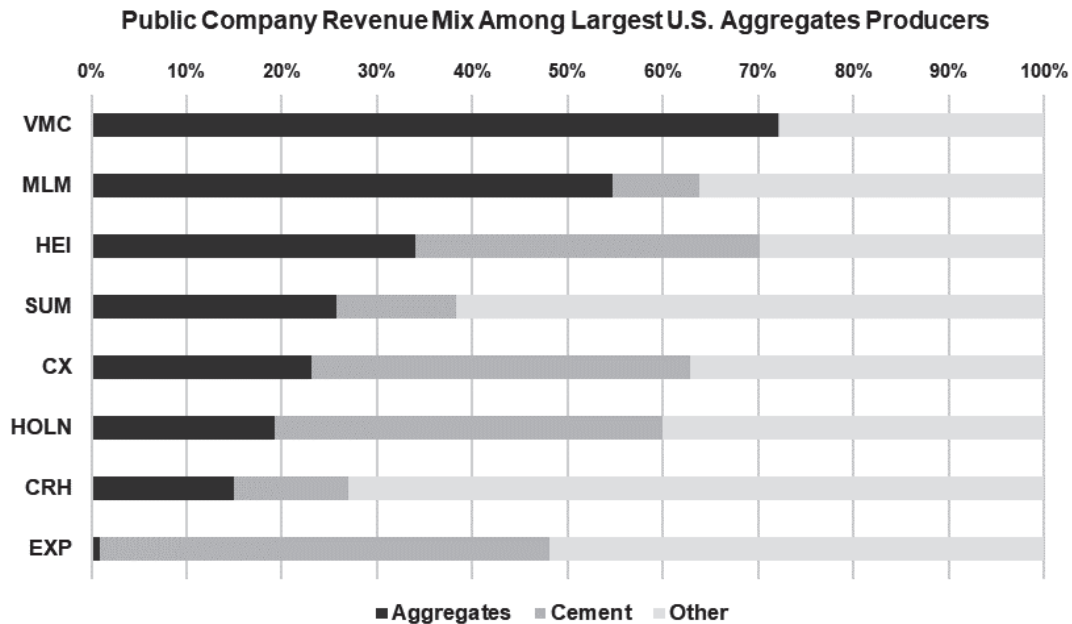
While aggregates is our focus and primary business, as of December 31, 2022, we further served our customers through our 71 asphalt facilities and 142 concrete facilities located in Alabama, Arizona, California, Maryland, New Mexico, Oklahoma, Tennessee, Texas, Virginia, the U.S. Virgin Islands and Washington D.C.

BUSINESS STRATEGY

Our strategy and competitive advantage are based on our strength in aggregates, which are used in most types of construction and in the production of asphalt mix and ready-mixed concrete. Our strategy for long-term value creation is built on: (1) an aggregates-focused business, (2) a disciplined approach to growth management and capital allocation, (3) a focus on continuous compounding improvement in profitability, (4) a holistic approach to land management, and (5) our commitment to safety, health and the environment.

1. AGGREGATES FOCUS

Aggregates are used in virtually all types of public and private construction, practically no substitutes for quality aggregates exist, and significant barriers to entry exist in most markets. Vulcan is uniquely positioned as the largest aggregates supplier in the U.S. and the most aggregates-focused public company.



Source: 2021 reported financial information and Company estimates. VMC includes U.S. Concrete revenues subsequent to the August 2021 acquisition.

Given our focus on aggregates, we:

- **TAKE ADVANTAGE OF SIZE AND SCALE:** While certain aspects of each aggregates operation are unique, such as its location within a local market and its particular geological characteristics, every operation uses a similar group of assets to produce saleable aggregates and provide customer service. Our 404 active aggregates facilities as of December 31, 2022 provide opportunities to share and scale best practices across our operations and to procure equipment (fixed and mobile), parts, supplies and services in an efficient and cost-effective manner, both regionally and nationally. Additionally, we are able to share best practices across the organization and leverage our size for administrative support, customer service, accounting, procurement, technical support and engineering.
- **BUILD AND HOLD SUBSTANTIAL RESERVES:** Our reserves are critical to our long-term success. We currently have 15.6 billion tons of proven and probable aggregates reserves. They are strategically located to economically serve high-growth areas in the United States that are expected to require large amounts of aggregates to meet future construction demand. Moreover, there are significant barriers to entry in many metropolitan markets due to stringent zoning and permitting regulations. These restrictions curtail expansion in certain areas, but they also increase the value of our reserves at existing locations.

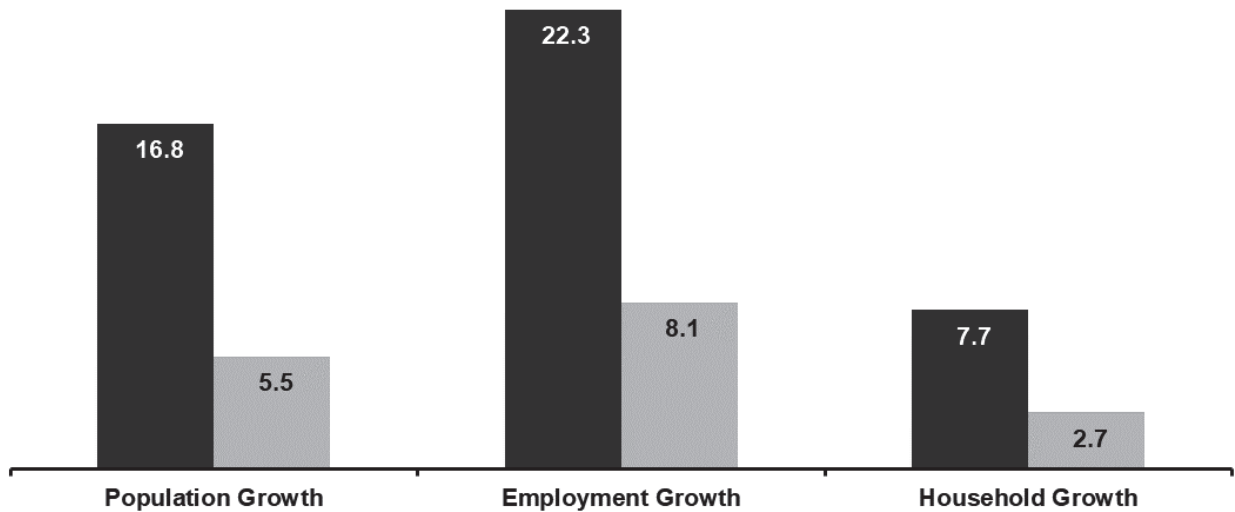
2. GROWTH MANAGEMENT AND CAPITAL ALLOCATION

GROWTH MANAGEMENT: Demand for our products is dependent on construction activity and correlates positively with changes in population growth, household formation and employment. As such, we have pursued a strategy to increase our presence in U.S. metropolitan areas that are expected to grow the most rapidly and to divest assets that are no longer considered part of our long-term growth strategy. During the next decade (2022 - 2032), Woods & Poole Economics projects that 75% of the U.S. population growth, 74% of household formation and 73% of new jobs will occur in Vulcan-served states. Our coast-to-coast footprint serves 20 of the top 25 highest-growth metropolitan statistical areas in 22 states plus Washington D.C. The close proximity of our aggregates reserves and our production facilities to this projected population growth creates many opportunities to invest capital in high-return projects.

Projected Demographic Growth, 2022 to 2032

(Millions)

■ Vulcan States ■ Non-Vulcan States



Source: Woods & Poole Economics, Complete Economic and Demographic Data Source (CEDDS) 2022

Our top ten revenue producing states accounted for 84% of our 2022 revenues while our top five accounted for 62%.

VULCAN'S TOP TEN REVENUE PRODUCING STATES IN 2022

- | | |
|---------------|--------------------|
| 1. Texas | 6. Florida |
| 2. California | 7. Alabama |
| 3. Georgia | 8. Arizona |
| 4. Tennessee | 9. South Carolina |
| 5. Virginia | 10. North Carolina |

CAPITAL ALLOCATION: Our long-term capital allocation strategy is focused on the following priorities:

- Operating Capital (maintain and grow the value of our franchise)
- Growth Capital (including greenfields and acquisitions)
- Dividend Growth (with a keen focus on sustainability)
- Return Excess Cash to Shareholders (primarily via share repurchases)

During 2022, we reinvested \$612.6 million into core operating & maintenance capital and internal growth capital, in addition to \$451.3 million and \$362.2 million reinvested in 2021 and 2020, respectively. These investments are fundamental actions that sustain and strengthen the business. They improve the longer-term efficiency, capacity and flexibility of our production, and they support our strong commitment to superior customer service.

Since becoming a public company in 1956, Vulcan has principally grown by mergers and acquisitions. In 1999, we acquired CalMat Co., thereby expanding our aggregates operations into California and Arizona and making us one of the nation's leading producers of asphalt mix. In 2007, we acquired Florida Rock Industries, Inc., expanding our aggregates business in Florida and our aggregates and ready-mixed concrete businesses in other Mid-Atlantic and Southeastern states. In 2017, we acquired Aggregates USA, greatly expanding our ability to serve customers in Florida, Georgia and South Carolina. In 2021, we acquired U.S. Concrete, enhancing and expanding our aggregates-led business in attractive growing metropolitan areas.

While an aggregates-focused business, we selectively make investments in downstream products that drive local market profitability. Our downstream businesses (asphalt and concrete) use internally-produced aggregates almost exclusively when available in the market from a Vulcan aggregates operation. In 2017, we entered the asphalt market in Tennessee through the acquisition of several asphalt mix operations and a construction paving business. In 2018, we entered the asphalt mix and construction paving markets in Alabama and expanded our asphalt operations and service offerings in Texas through the acquisition of several asphalt mix operations and construction paving businesses. Through our 2021 acquisition of U.S. Concrete, we entered the New Jersey, New York, Oklahoma, Pennsylvania and U.S. Virgin Islands concrete markets and expanded our California, Texas and Washington D.C. concrete markets. We subsequently exited the New Jersey, New York and Pennsylvania concrete markets in 2022.

Additionally, throughout our history, we have completed many bolt-on aggregates and downstream acquisitions that have contributed significantly to our growth. From 2020 to 2022, we invested \$2,307.4 million in acquisitions as outlined in Note 19 "Acquisitions and Divestitures" in Item 8 "Financial Statements and Supplementary Data."

Our annual Return on Invested Capital (ROIC) decreased 0.7 percentage points (70 basis points) in 2022. While Adjusted EBITDA increased 12% in 2022 (net earnings attributable to Vulcan decreased 14% in 2022), invested capital increased by 18%, primarily as a result of acquisitions. We remain committed to driving improvement in our ROIC through solid operating earnings growth coupled with disciplined capital management. ROIC and Adjusted EBITDA are Non-GAAP financial measures. Non-GAAP financial measures are defined and reconciled within Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations" under the caption "Reconciliation of Non-GAAP Financial Measures."

3. COMPOUNDING IMPROVEMENT IN PROFITABILITY

Our focus on the Vulcan Way of Selling (Commercial Excellence & Logistics Innovation) and the Vulcan Way of Operating (Operational Excellence & Strategic Sourcing) has made us one of the most profitable public companies in the industry (as measured by aggregates gross profit per ton).

- Commercial Excellence — We place great emphasis on the unique characteristics of each geographic market, and we interact with our customers accordingly. We leverage our coast-to-coast presence, sharing best practices and real-time, forward-looking metrics with our sales teams to drive high quality discussions, value selling and improved solutions for our customers. We have clearly defined roles and responsibilities which enable our sales teams to spend less time on non-selling activities and more time responding to our customers' needs.
- Logistics Innovation — Our industry-leading logistics team manages the shipments of nearly half of our products. We provide logistics systems that give us real-time information including on-site, mobile visibility to orders, deliveries and digital shipping records. Partnering with our customers (truck drivers and contractors), our bundled logistics solutions enable streamlined scheduling, speed and accuracy of delivery, as well as efficient back-office processes.
- Operational Excellence — We strive for continuous and sustainable improvements in our operating disciplines and our industry-leading safety performance. Leveraging our size and diversity, we harness technology and innovation to equip our operators with the tools and information they need to improve our customer service, asset utilization and production efficiencies.
- Strategic Sourcing — We focus on value preservation and creation in our sourcing, leveraging our scale to save money across the organization while making sure our employees have the supplies and equipment they need. Deploying best practices and innovation allows us to spend more time in our plants and with our suppliers to deliver the right parts and services at the right time and optimize the total cost of ownership.

We manage the Vulcan Way of Selling & Operating locally and align our talent and incentives accordingly. Our knowledgeable and experienced workforce and our flexible production capabilities allow us to manage operational and overhead costs aggressively. As a result, from 2020 to 2022, aggregates gross profit per ton has improved from \$5.57 to \$5.96 (an increase of 7%), and aggregates cash gross profit per ton has improved from \$7.11 to \$7.83 (an increase of 10%). Aggregates cash gross profit per ton is a Non-GAAP financial measure. Non-GAAP financial measures are defined and reconciled within Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations" under the caption "Reconciliation of Non-GAAP Financial Measures."

4. LAND MANAGEMENT

With more than 240,000 acres in our land portfolio, a long-term holistic approach to preserving land and water is integral to sustaining our success. From pre-mining to mining to reclamation, we are actively managing the entire life cycle of our land to create maximum value for the business, our shareholders and our communities.

We are putting land to use before we mine by creating opportunities for agriculture and timber development. After mining, our land and water assets will be converted to other valuable uses including drinking water reservoirs, aquifer recharge basins, public parks, habitat mitigation banks, wetlands, productive farmland and residential and commercial developments. In 2022, we sold excess real estate in Southern California for net proceeds of \$23.6 million resulting in a pretax gain of \$23.5 million. In 2021, we sold previously mined land in Southern California that we had reclaimed for commercial and retail development for net proceeds of \$182.3 million resulting in a pretax net gain of \$114.7 million.

Because of the evolving needs of our communities, we listen to and collaborate with our neighbors to prepare the land for its highest and best use after mining is complete. For example, in 2021 we partnered with the city of Atlanta to convert our Bellwood Quarry into a reservoir. This reservoir will serve as an emergency water supply for Atlanta, holding more than 2 billion gallons of water from the Chattahoochee River. This amount is enough backup water supply to last between 30 and 90 days — a significant improvement from the city's previous reserve of three to five days. We are proud to have worked with the city of Atlanta to provide an extremely valuable asset that protects and serves local communities. Our work with state, regional and local governments to develop solutions today will benefit future generations.

5. SAFETY, HEALTH AND THE ENVIRONMENT

A strategy for sustainable, long-term value creation must include doing right by your employees, your neighbors and the environment in which you operate.

Our leadership recognized decades ago the significance and importance of leadership in the Safety, Health and Environmental areas. The Safety, Health and Environmental Affairs Committee of our Board of Directors, along with the full Board, has oversight responsibility for our environmental, safety and health programs and results. Our Safety, Health & Environmental Management Committee, made up of the senior leadership team along with other key senior personnel from cross-functional operations and staff disciplines, has the ongoing management responsibility for all of our safety, health and environmental initiatives. We are a leader in our industry in safety performance by applying the shared experiences, expertise and resources at each of our locally led sites with an emphasis on taking care of one another. In 2022, we achieved an overall Mine Safety and Health Administration (MSHA) safety performance of 1.00 injuries per 200,000 employee hours worked, which is both industry-leading and considered world-class.

Our community relations programs serve our neighbors while ensuring that we grow and thrive in the communities where we operate. We leverage our charitable foundation and company funds to support food banks, healthcare services, childhood education remote learning programs and other initiatives designed to lessen the difficulties experienced in many of our communities. Our charitable foundation alone has provided nearly \$66 million in support over the past 20 years to essential charitable, civic and educational organizations that strengthen and enrich our communities. The actions of our Grandin Sand Plant facility in Florida over the last two years are a prime example of our commitment to community relations. This aggregates operation provided support to federal, state and local government clients to help rebuild from Hurricane Irma and Hurricane Matthew along the Florida coast. We worked with the Army Corps of Engineers, the Federal Emergency Management Agency and county officials to support the reconstruction of beaches to improve public usability and protection from future storm events.

We focus on our environmental stewardship programs with the same intensity that we bring to our health and safety initiatives. Our environmental stewardship commitment is designed to protect plant and animal species and habitats, as well as the air we breathe, the water we use and the planet we all share. In all parts of our company, from local operations to our corporate and regional offices to our international business and ocean-going shipping, we are focused on ensuring that our operations are efficient in ways that are economically and environmentally sustainable. As an example of our commitment to environmental stewardship, we have been a proud national partner of the Wildlife Habitat Council (WHC) since 1990 when our Sanders quarry became the first site in the U.S. to obtain certification by WHC. Since then, we have received accreditation for 40 quarry sites containing wildlife enhancement programs. Our reforestation efforts at our Calica quarry in Mexico provide another example of our commitment to environmental stewardship. Since we began closely recording data about our reforestation efforts, we have planted an average of 2,885 trees per hectare, significantly more than the 500 recommended by the National Forestry Commission. Over a nearly 20-year time span, we have planted approximately 80,000 trees. We also maintain nearly 30% of our land as protected forest and as a natural forest conservation area, which contains three Mayan archaeological sites and four cenotes (underground natural pools historically used for sacred Mayan ceremonies).

In addition, the recycling of aggregates-containing construction materials including concrete and recycled asphalt pavement (RAP) is an important part of our business. The sources of these materials are highway and infrastructure projects and other demolition projects where concrete structures or asphalt paving is being removed. During 2022, we reused 1.7 million tons of RAP and recycled 2.1 million tons of concrete. The recycling of these aggregates-containing construction materials reduces carbon emissions that impact climate change while providing a valuable service to our customers and communities, extending the life of our aggregates reserves and helping us manage the cost of production.

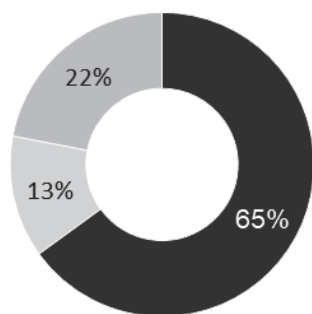
For a discussion of our energy management and greenhouse gas emissions initiatives, see the Environmental Stewardship and Climate Change section later within this Item 1 under Other Business-Related Items.

PRODUCT LINES

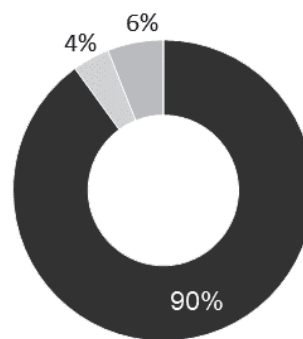
Our products are used to build the roads, tunnels, bridges, railroads and airports that connect us, and to build the hospitals, schools, shopping centers, factories and places of worship that are essential to our lives, our communities and the economy. We have four operating (and reportable) segments (Aggregates, Asphalt, Concrete and Calcium) organized around our principal product lines. As of December 31, 2022, we had 404 active aggregates facilities, 71 asphalt facilities, 142 concrete facilities and 1 calcium facility.

Our 2022 total revenues and gross profit by segment are illustrated as follows (Calcium revenues and gross profit were less than one percent):

2022 Total Revenues



2022 Gross Profit



■ Aggregates ■ Asphalt ■ Concrete

For actual amounts, see Note 15 “Segment Reporting” in Item 8 “Financial Statements and Supplementary Data.”

1. AGGREGATES

Our construction aggregates are used in a number of ways:

- as a base material underneath highways, walkways, airport runways, parking lots and railroads
- to aid in water filtration, purification and erosion control
- as a raw material used in combination with other resources to construct many of the items we rely on to sustain our quality of life, including:
 - houses and apartments
 - roads, bridges and parking lots
 - schools and hospitals
 - commercial buildings and retail space
 - sewer systems
 - power plants
 - airports and runways

AGGREGATES INDUSTRY

Factors that affect the U.S. aggregates industry and our business include:

- **LOCATION AND TRANSPORTATION OF RESERVES:** Aggregates have a high weight-to-value ratio and, in most cases, must be produced near where they are used; if not, transportation can cost more than the materials, rendering them uncompetitive compared to locally produced materials. Where practical, we have operations located close to our local markets because the cost of trucking materials long distances is prohibitive. Approximately 82% of our total aggregates shipments are delivered exclusively from the producing location to the customer by truck.

Exceptions to this typical market structure include areas along the U.S. Gulf Coast and the Eastern Seaboard where there are limited supplies of locally available, high-quality aggregates. We serve these markets from quarries that have access to cost-effective long-haul transportation — shipping by barge and rail — and from our quarries in Quintana Roo, Mexico (see Note 12, NAFTA Arbitration) and Puerto Cortés, Honduras (acquired in the third quarter of 2022) with our fleet of Panamax-class, self-unloading ships. Additionally, as a result of our 2021 acquisition of U.S. Concrete, we serve markets in California and Hawaii from our quarry in British Columbia, Canada by means of a long-term marine shipping agreement with CSL Americas. Approximately 16% of our total aggregates shipments are delivered by truck to the customer after reaching a sales yard by rail or water. The remaining 2% of aggregates shipments are delivered directly to the customer by rail or water.

- **LIMITED PRODUCT SUBSTITUTION:** There are limited substitutes for quality aggregates. Recycled concrete and asphalt have certain applications as a lower-cost alternative to virgin aggregates. However, many types of construction projects cannot be served by recycled concrete and require the use of virgin aggregates to meet technical specifications and performance-based criteria for durability, strength and other qualities. Likewise, the amount of recycled asphalt included in asphalt mix as a substitute for aggregates is limited due to specifications.
- **HIGHLY FRAGMENTED INDUSTRY:** The U.S. aggregates industry is composed of over 5,000 companies that managed over 10,000 operations during 2022. This fragmented structure provides many opportunities for consolidation. Companies in the industry commonly enter new markets or expand positions in existing markets through the acquisition of existing facilities.

Through strategic acquisitions and investments, we have developed an unmatched coast-to-coast footprint of strategically located permitted reserves concentrated in and serving the nation's key growth centers. We have over 22,000 customers in 22 states, the U.S. Virgin Islands, Washington D.C., British Columbia (Canada), Freeport (Bahamas), Puerto Cortés (Honduras) and Quintana Roo (Mexico).

- **FLEXIBLE PRODUCTION CAPABILITIES:** The production of aggregates is a mechanical process in which stone is crushed and, through a series of screens, separated into various sizes depending on how it will be used. Direct production costs of aggregates primarily include: a) wages and fringe benefits; b) depreciation, depletion, accretion and amortization of capital (or long-term) assets; c) operating parts and supplies; d) repair and maintenance; e) third-party contracted services and f) energy (primarily electricity and diesel). Production capacity is flexible by adjusting operating hours to meet changing market demand. We are currently operating considerably below full capacity, making us extremely well positioned to further benefit from economies of scale when additional growth materializes.
- **RAW MATERIAL INPUTS LARGELY CONTROLLED:** Unlike typical industrial manufacturing industries, the aggregates industry does not require the input of raw material beyond owned or leased aggregates reserves. Stone, sand and gravel are naturally occurring resources. However, production does require the use of explosives, hydrocarbon fuels and electric power.
- **DEMAND CYCLES:** Long-term growth in demand for aggregates is largely driven by growth in population, jobs and households. While short-term and medium-term demand for aggregates fluctuates with economic cycles, declines have historically been followed by strong recoveries.

The drivers underpinning long-term demand and sustained pricing growth remain firmly in place in both the public and private sectors of the economy. They include: population growth; gains in total employment and in household income and wages; a continuing increase in household formations; the growing need for additional housing stock and housing demand; a multi-year federal transportation law in place and continuing increases in transportation funding at state and local levels; stable state tax receipts; and a multi-year federal infrastructure investment law and continued political awareness and focus on the need to invest in infrastructure.

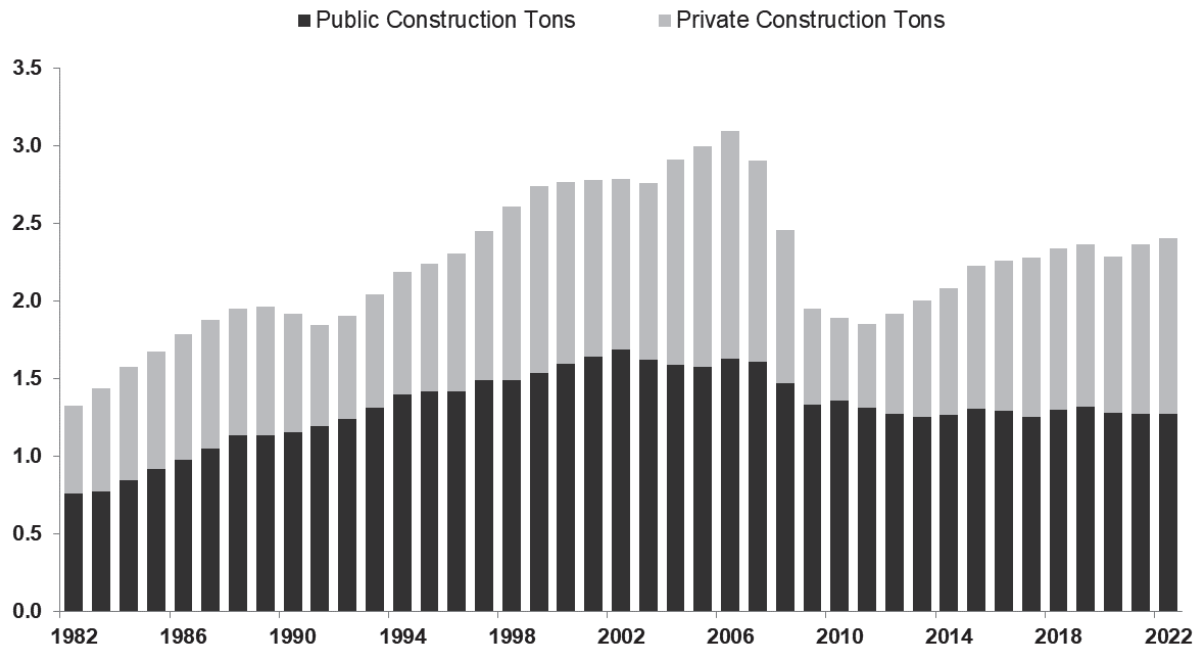
AGGREGATES MARKETS

We focus on the U.S. markets with above-average long-term expected population growth and where construction is expected to expand. We produce and sell aggregates (crushed stone, sand and gravel, sand, and other aggregates) and related products and services in twenty-two states, the U.S. Virgin Islands, Washington D.C., Freeport (Bahamas), British Columbia (Canada), Puerto Cortés (Honduras) and Quintana Roo (Mexico) — see Note 12, NAFTA Arbitration. We also ship railroad ballast to eleven additional states and supply direct shipments to Hawaii. We serve both the public and the private sectors.

Public sector construction activity has historically been more stable and less cyclical than privately-funded construction, and it generally requires more aggregates per dollar of construction spending. Private sector construction (primarily residential and nonresidential buildings) typically is more affected by general economic cycles than publicly-funded projects (particularly highways, roads and bridges), which tend to receive more consistent levels of funding throughout economic cycles.

U.S. Aggregates Demand

(Billions of Tons)



Source: Company estimates

PUBLIC SECTOR CONSTRUCTION MARKET

Public sector construction includes spending by federal, state and local governments for highways, bridges, buildings, airports, schools, prisons, sewer and waste disposal systems, water supply systems, dams, reservoirs and other public construction projects. Construction for power plants and other utilities is funded from both public and private sources. In 2022, publicly-funded construction accounted for approximately 40% of our total aggregates shipments, and approximately 22% of our aggregates sales by volume were used in highway construction projects.

- **PUBLIC SECTOR FUNDING:** Generally, public sector construction spending is more stable than private sector construction spending; public sector spending is less sensitive to interest rates and has historically been supported by multi-year laws, which provide certainty in funding amounts, program structures, rules and regulations. Federal spending is governed by authorization, budget and appropriations laws. The level of state and local spending on infrastructure varies across the United States and depends on individual state needs and economies.
- **STATE AND LOCAL TRANSPORTATION FUNDING:** Since 2013, 33 states and the District of Columbia have increased or adjusted taxes on motor fuel to increase revenues available for transportation investment, including 14 Vulcan-served states and the District of Columbia. Several states in our footprint index their gas taxes to a measure of inflation, including Alabama, California, Florida, Georgia, Illinois, Maryland, North Carolina, Virginia and the District of Columbia.

In addition, we benefit from state and local transportation funding ballot measures. In the 2022 general elections, voters in 20 states approved 88% of over 400 measures, which will generate nearly \$23 billion in one-time and recurring revenues for transportation investment. This approval rate was higher than the historical average. Voters have approved an average of 85% of nearly 3,000 transportation investment ballot measures since 2010. Major transportation funding measures in Vulcan-served areas approved in 2022 are estimated to result in \$8.5 billion in revenues and bond proceeds primarily dedicated to roads, streets and bridges.

- **FEDERAL HIGHWAY FUNDING:** In November 2021, President Biden signed a historic, bi-partisan infrastructure bill, the Infrastructure Investment and Jobs Act (IIJA), into law.

The IIJA provides the largest increase in federal highway, road and bridge funding in more than six decades with a five-year reauthorization of Federal-Aid Highway Program funding. The total Federal-Aid Highway Program obligation limitation under IIJA starts at \$66.9 billion in Fiscal Funding Year (FFY) 2022 and increases to \$72.1 billion in FFY 2026, for a total of nearly \$350 billion.

These numbers include one-time additional funding for large road and bridge projects, such as \$40 billion for bridge repair, replacement and rehabilitation. Of the bridge funds, approximately \$16.2 billion is earmarked for projects in Vulcan-served states.

In December 2022, President Biden signed the FFY 2023 omnibus spending package, which fully funds the IIJA highway investment levels for FFY 2023. The FFY 2023 spending package also enables states and localities to use funds from the American Rescue Plan Act of 2021, a COVID-19 relief package for infrastructure projects, including highways, roads and bridges. In Vulcan-served states, counties and cities, this amounts to \$70 billion additional Federal resources available.

The long-term nature of the highway program reauthorization in the IIJA is important. The Federal-Aid Highway Program is the largest component of the law and has provided, on average, 50% of all state capital investment in roads and bridges over the last 10 years. This multi-year authorization and the associated dedicated funding provides state departments of transportation with the ability to plan and execute long-range, complex highway projects. In states where we operate, we are well positioned to serve the large general contractors who will compete for new freight and other major capacity projects that will move forward with IIJA and policy implementation.

Importantly, building on improvements in the two prior reauthorization laws — The Fixing America's Surface Transportation Act (FAST Act) and Moving Ahead for Progress in the 21st Century Act (MAP-21) — the IIJA further streamlines project delivery and environmental approval advancements.

Project financing remains an important additional component of overall surface transportation spending. The IIJA expands access to private activity bonds for highway and intermodal projects, and sets the Transportation Infrastructure Finance & Innovation Act (TIFIA) program authorized at \$250 million per year.

- **ADDITIONAL FEDERAL PUBLIC INFRASTRUCTURE INVESTMENTS UNDER THE IIJA:** The IIJA allocates a total of approximately \$1.2 trillion in federal funds for infrastructure investment, including almost \$550 billion in new spending. A little more than half of the new money is dedicated to transportation sector projects. Beyond highway infrastructure, Vulcan could benefit from IIJA-funded, aggregates-intensive infrastructure projects, such as railroads, airports, seaports, and drinking and wastewater systems.
- **FEDERAL WATER RESOURCES INFRASTRUCTURE:** In December 2022, President Biden signed the Water Resources Development Act of 2022 (WRDA 2022) into law, enacting the fifth consecutive biennial authorization for the U.S. Army Corps of Engineers (Army Corps) since 2014. WRDA 2022 reauthorizes needed investment in America's ports, channels, locks, dams, and other infrastructure that supports the maritime and waterways transportation system. WRDA 2022 provides the Army Corps with authorization and funding for flood and coastal storm risk management and ecosystem restoration in support of resilience and sustainability. It also authorizes the Army Corps and United States Environmental Protection Agency's (EPA) programs, which support drinking water, wastewater and storm management projects. Notably, WRDA 2022 includes a policy provision that makes permanent the Inland Waterways Trust Fund (IWTF) cost share for lock and dam construction and major rehabilitation projects, enabling the IWTF to help finance more projects.

PRIVATE SECTOR CONSTRUCTION MARKET

The private sector construction markets include both nonresidential building construction and residential construction and are considerably more cyclical than public construction. In 2022, privately-funded construction accounted for approximately 60% of our total aggregates shipments.

- **NONRESIDENTIAL CONSTRUCTION:** Private nonresidential building construction includes a wide array of projects. Such projects generally are more aggregates intensive than residential construction. Overall demand in private nonresidential construction generally is driven by job growth, vacancy rates, private infrastructure needs and demographic trends. The growth of the private workforce creates demand for offices, hotels and restaurants. Likewise, population growth generates demand for stores, shopping centers, warehouses and parking decks as well as hospitals, places of worship and entertainment facilities. Large industrial projects, such as a new manufacturing facility, can increase the need for other manufacturing plants to supply parts and assemblies. Construction activity in this end market is influenced by a firm's ability to finance a project and the cost of such financing. This end market also includes capital investments in public nonresidential facilities to meet the needs of a growing population.
- **RESIDENTIAL CONSTRUCTION:** Household formations in Vulcan-served states continue to outpace household formations in the rest of the United States. The majority of residential construction is for single-family housing with the remainder consisting of multi-family construction (i.e., two family houses, apartment buildings and condominiums). Public housing comprises only a small portion of housing demand. Construction activity in this end market is influenced by the cost and availability of mortgage financing and builders' ability to maintain skilled labor.

U.S. housing starts, as measured by Dodge Data & Analytics data, peaked in early 2006 at over 2 million units annually. By the end of 2009, total housing starts had declined to less than 0.6 million units, well below prior historical lows of approximately 1 million units annually. In 2022, total annual housing starts in the U.S. reached 1.73 million units.

ADDITIONAL AGGREGATES PRODUCTS AND MARKETS

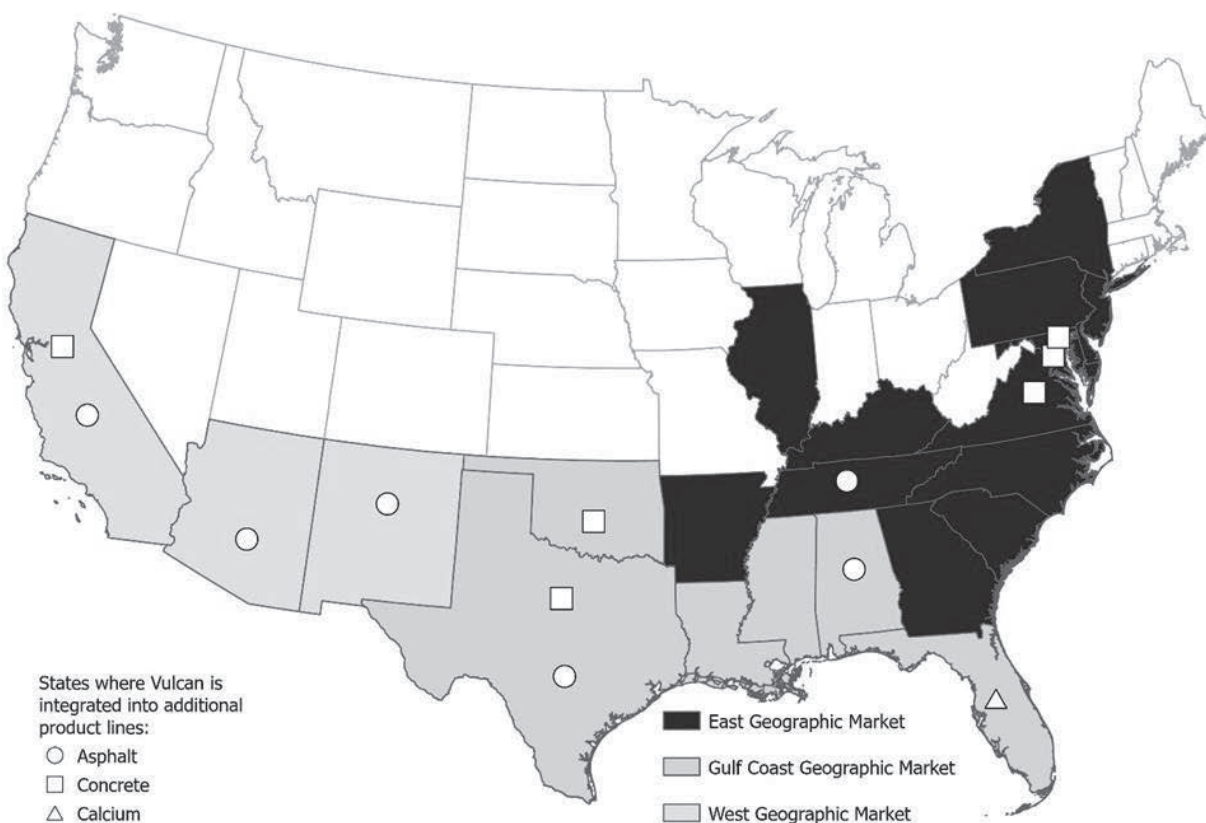
We sell aggregates that are used as ballast for construction and maintenance of railroad tracks. We also sell riprap and jetty stone for erosion control along roads and waterways. In addition, stone can be used as a feedstock for cement and lime plants and for making a variety of adhesives, fillers and extenders. Coal-burning power plants use limestone in scrubbers to reduce harmful emissions. Limestone that is crushed to a fine powder can be sold as agricultural lime.

We sell a relatively small amount of construction aggregates outside of the United States, principally in the areas surrounding our aggregates production facility located in Quintana Roo, Mexico (see Note 12 "Commitments and Contingencies" in Item 8 "Financial Statements and Supplementary Data") and our recently acquired aggregates production facilities in British Columbia, Canada and Puerto Cortés, Honduras. Nondomestic sales and long-lived assets outside the United States are reported in Note 15 "Segment Reporting" in Item 8 "Financial Statements and Supplementary Data."

VERTICAL INTEGRATION

While aggregates is our focus and primary business, we believe vertical integration between aggregates and downstream products, such as asphalt mix and ready-mixed concrete, can be managed effectively in certain markets to generate attractive financial returns and enhance financial returns in our core Aggregates segment. We produce and sell asphalt mix and/or ready-mixed concrete within each of our three geographic markets, as noted below.

Aggregates comprise approximately 95% of asphalt mix by weight and 80% of ready-mixed concrete by weight. In both of these downstream businesses, aggregates are primarily supplied from our operations.



2. ASPHALT

We produce and sell asphalt mix in Alabama, Arizona, California, New Mexico, Tennessee and Texas and provide asphalt construction paving services in Alabama, Tennessee and Texas. In August 2022 and October 2020, we strengthened our asphalt positions in California and Texas, respectively, by acquiring additional asphalt operations. For additional details, see Note 19 “Acquisitions and Divestitures” in Item 8 “Financial Statements and Supplementary Data.”

This segment relies on our reserves of aggregates, functioning essentially as a customer to our aggregates operations. Aggregates are a major component in asphalt mix, comprising approximately 95% by weight of this product. We meet the aggregates requirements for our Asphalt segment primarily through our Aggregates segment. These product transfers are made at local market prices for the particular grade and quality of material required.

Because asphalt mix hardens rapidly, delivery typically is within close proximity to the producing facility. The asphalt mix production process requires liquid asphalt cement, which we purchase from third-party producers. We do not anticipate any significant difficulties in obtaining the raw materials necessary for this segment to operate. We serve our Asphalt segment customers directly from our local production facilities.

3. CONCRETE

We produce and sell ready-mixed concrete in California, Maryland, Oklahoma, Texas, Virginia, the U.S. Virgin Islands and Washington D.C. In April and August 2022, we strengthened our concrete positions in Virginia and California by acquiring additional concrete operations. In August 2021, through our acquisition of U.S. Concrete, we entered the New Jersey, New York, Oklahoma, Pennsylvania and U.S. Virgin Islands concrete markets and expanded our service of the California, Texas and Washington D.C. concrete markets. Subsequently, in November 2022, we exited the New Jersey, New York and Pennsylvania concrete markets. In April 2020, we exited the New Mexico ready-mixed concrete market (we retained the concrete plants and mobile fleet which are leased to the buyer and obtained a 20-year aggregates supply agreement). For additional details, see Note 19 “Acquisitions and Divestitures” in Item 8 “Financial Statements and Supplementary Data.”

This segment relies on our reserves of aggregates, functioning essentially as a customer to our aggregates operations. Ready-mixed concrete consists of cement and other cement-related materials (such as fly ash and slag), aggregates (crushed stone and sand), chemical admixtures and water and is measured in cubic yards. Aggregates are a major component in ready-mixed concrete, comprising approximately 80% by weight of this product. We meet the aggregates requirements of our Concrete segment primarily through our Aggregates segment. These product transfers are made at local market prices for the particular grade and quality of material required.

Cement is the binding agent used to bind water, crushed stone and sand in the production of ready-mixed concrete. Other industrial byproducts, such as fly ash from coal burning power plants and slag from the manufacture of iron and silica fume, have cement-related properties that allow them to be used as substitutes for cement depending on the specifications. We purchase cement-related materials from a few suppliers in each of our major geographic markets. Chemical admixtures are generally purchased from suppliers under national purchasing agreements.

With the exception of chemical admixtures, each ready-mix facility typically maintains an inventory level of these raw materials sufficient to satisfy its operating needs for a few days. Inventory levels do not decline significantly or comparatively with declines in revenue during seasonally lower periods. We generally maintain inventory at specified levels to maximize purchasing efficiencies and to be able to respond quickly to customer demand.

Because ready-mixed concrete hardens rapidly, delivery typically is within close proximity to the producing facility. Ready-mixed concrete production also requires cement which we purchase from third-party producers. We do not anticipate any significant difficulties in obtaining the raw materials necessary for this segment to operate. We serve our Concrete segment customers from our local production facilities or by truck.

4. CALCIUM

Our Calcium segment is composed of a single calcium operation in Brooksville, Florida. This facility produces calcium products for the animal feed, plastics and water treatment industries with high-quality calcium carbonate material mined at the Brooksville quarry.

OTHER BUSINESS-RELATED ITEMS

SEASONALITY AND CYCLICAL NATURE OF OUR BUSINESS

Almost all of our products are produced and consumed outdoors. Seasonal changes and other weather-related conditions can affect the production and sales volumes of our products. Therefore, the financial results for any quarter do not necessarily indicate the results expected for the year. Normally, the highest sales and earnings are in the third quarter, and the lowest are in the first quarter. Furthermore, our sales and earnings are sensitive to national, regional and local economic conditions, demographic and population fluctuations, and particularly to cyclical swings in construction spending, primarily in the private sector.

COMPETITORS

We operate in a fragmented industry with a large number of small, privately-held companies. We estimate that the ten largest aggregates producers accounted for 33% of the total U.S. aggregates production in 2022. Despite being the industry leader, Vulcan's total U.S. market share is less than 10%. Other publicly traded companies among the ten largest U.S. aggregates producers include the following:

- Arcosa, Inc.
- Cemex S.A.B. de C.V.
- CRH plc
- HeidelbergCement AG
- Holcim Ltd.
- Martin Marietta Materials, Inc.
- MDU Resources Group, Inc.
- Summit Materials, Inc.

Because the U.S. aggregates industry is highly fragmented, with over 5,000 companies managing over 10,000 operations during 2022, many opportunities for consolidation exist. Therefore, companies in the industry tend to grow by acquiring existing facilities to enter new markets or extend their existing market positions.

CUSTOMERS

No material part of our business depends upon any single customer whose loss would have a significant adverse effect on our business. In 2022, our five largest customers accounted for 7% of our total revenues, and no single customer accounted for more than 2% of our total revenues. Although approximately 40% to 55% of our aggregates shipments have historically been used in publicly-funded construction, such as highways, airports and government buildings, a relatively small portion of our sales are made directly to federal, state, county or municipal governments/agencies. Therefore, although reductions in state and federal funding can curtail publicly-funded construction, the vast majority of our business is not directly subject to renegotiation of profits or termination of contracts with local, state or federal governments. In addition, our sales to government entities span several hundred entities coast-to-coast, ensuring that negative changes to various government budgets would have a muted impact across such a diversified set of government customers.

ENVIRONMENTAL STEWARDSHIP AND CLIMATE CHANGE

Climate change, or long-term changes in global temperature and other characteristics of the atmosphere, is a global concern. The United Nations Climate Change Conference in Glasgow (COP26) stressed the urgency of taking action to keep global temperature from exceeding 1.5 degrees Celsius above pre-industrial levels. Due to human influence on the climate from carbon-based energy use and unsustainable natural resource management, the Earth is now about 1.1 degrees Celsius warmer than it was in the 1800s.

As an industry leader, Vulcan is, and has always been, committed to environmental stewardship. We are committed to doing our part to reduce our greenhouse gas (GHG) emissions and mitigate against the potential impacts of climate change.

Vulcan recognizes, and is taking steps to address, the physical and transition risks associated with climate change. Carbon dioxide and other GHG emissions from Vulcan's operations are low: Vulcan is aggregates-focused and does not produce cement. Beginning in 2018, Vulcan chose to voluntarily report GHG emissions via the Carbon Disclosure Project. In 2022, we established interim goals and targets related to Scope 1 and 2 emissions. We also committed to calculating our Scope 3 emissions, which result from activities of assets not owned or controlled by Vulcan but that indirectly impact our value chain. We continue to enhance our GHG emissions tracking and reporting capability in order to report Scope 1 and 2 emissions on an enterprise-wide basis across all lines of business and are concluding the first phase of our Scope 3 GHG emissions inventory project, which focuses on building our Scope 3 upstream emissions inventory and estimating capabilities. The second phase will focus on downstream emissions.

MANAGING ENERGY AND OPERATIONAL EFFICIENCY

Environmental stewardship — including our efforts to manage energy, increase efficiencies and reduce our environmental impact — is embedded into our business strategy and culture. We manage energy use carefully. We routinely conduct energy audits of our operations to identify areas for operational efficiency improvements and energy savings. Some of the opportunities identified during these audits that are being implemented include: replacement of older motors with new ultra-high efficiency motors to power plant processing equipment; improvements in water handling systems to reduce water pumping needed; optimizing process equipment flow to maximize efficiency; use of LED lighting; and optimization of air conditioning and lighting control to reduce energy consumption.

We continue to increase the fuel efficiencies of our off-road fleet vehicles. Tier IV machines performed over 57% of the off-road fleet's work in 2022, which positively impacts all air emissions in addition to having an impact on GHG emissions.

Additionally, our Concrete segment has licensed the CarbonCure technology that provides capture and sequestration of carbon dioxide within ready-mixed concrete. The carbon dioxide becomes chemically bound within the concrete matrix and is not released into the air, even when the concrete is recycled following use. This technology also reduces the demand for cement and other cement-related materials which reduces the supply side carbon footprint. The resulting concrete is also stronger than it would have been without use of the technology.

Scope 1 and Scope 2 GHG reductions will come by means of continuing heavy equipment replacement with higher efficiency models, seeking production efficiencies, and procuring energy from renewable sources. We are confident that there are many more opportunities to reduce the carbon footprint of our operations, distribution and transportation networks, and the projects in which our products are used. An example of an additional opportunity that we are exploring is the installation of battery storage for electricity at multiple locations so that energy can be stored during off peak periods to run the plant equipment, thereby minimizing peak load usage. This has significant implications for the ability of the utility company to meet peak demands and to reduce their use of older power plants that burn coal or oil and emit greater concentrations of GHG emissions.

ENVIRONMENTAL COSTS AND GOVERNMENTAL REGULATION

We are subject to a wide variety of federal, state and local laws and regulations in the communities where we conduct business. Compliance with these laws and regulations often requires the time and effort of our employees, as well as financial resources. The following describes certain significant regulations that may impact our business. For additional information about our risks related to government regulations, see Item 1A “Risk Factors.”

Our operations are subject to numerous laws and regulations relating to the protection of the environment and worker health and safety; including regulation of facility air emissions and water discharges, waste management, protection of wetlands, listed and threatened species, noise and dust exposure control for workers, and safety regulations under both Mine Safety and Health Administration (MSHA) and Occupational Safety and Health Administration (OSHA). Compliance with these various regulations requires capital investment and ongoing expenditures for the operation and maintenance of systems and implementation of programs. These anticipated investments and expenditures are not material to our earnings or competitive position.

We have received notices from the EPA or similar state or local agencies that we are considered a potentially responsible party (PRP) at a limited number of sites under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund) or similar state and local environmental laws. Generally, we share the cost of remediation at these sites with other PRPs or alleged PRPs in accordance with negotiated or prescribed allocations. There is inherent uncertainty in determining the potential cost of remediating a given site and in determining any individual party's share of that cost. As a result, estimates can change substantially as additional information becomes available about the nature or extent of site contamination, remediation methods, other PRPs and their probable level of involvement, and actions by or against governmental agencies or private parties.

Frequently, we are required by state and local regulations or contractual obligations to reclaim our former mining sites. These reclamation liabilities are recorded at fair value in our financial statements at the time the obligation arises. To determine the fair value, we estimate the cost for a third party to perform the legally required reclamation, which is adjusted for inflation and risk and includes a reasonable profit margin. Reclaimed quarries often have potential for use in commercial or residential development or as reservoirs or landfills. However, no projected cash flows from these anticipated uses have been considered to offset or reduce the estimated reclamation liability.

For additional information about environmental matters and reclamation obligations, see Notes 12 and 17, respectively, to the consolidated financial statements in Item 8 “Financial Statements and Supplementary Data.”

HUMAN CAPITAL

As of January 1, 2023, we employed 11,397 people in the United States. Of these employees, 1,252 are represented by labor unions. Also, as of that date, we employed 368 people in Mexico, 80 people in Canada, 128 people in Honduras and 1 person in the Bahamas. Of these employees, 296 are represented by labor unions. We believe we enjoy a satisfactory relationship with our employees, including our unionized workforce, and we do not anticipate any significant issues with any unions in 2023.

Vulcan's commitment to our people has played a key role in the ongoing success and growth of our company throughout our long history. We are dedicated to fostering a culture of mutual respect, integrity, teamwork and trust among our workforce. Our people share a competitive drive to be the best they can be and do the right thing, which benefits all our stakeholders.

Diversity, equity and inclusion are important values at Vulcan. Our continued investment in people and strong commitment to diversity, equity and inclusion will help us attract, grow and retain the best talent possible. In 2015, we escalated and formalized our efforts in this area with the launch of our Diversity, Equity and Inclusion Council to promote an open workplace where everyone, regardless of background, race, or other factors, is free to contribute and grow. In 2019, we signed the CEO Action for Diversity & Inclusion™ pledge, and we forged a long-term partnership with Historically Black Colleges and Universities (HBCUs) to support our future leaders in our communities and on our team. In 2020, we established diversity, equity and inclusion (DE&I) councils in our divisions to support targeted DE&I opportunities in their local communities. In 2021, we launched Employee Resource Groups (ERGs) and included quarterly DE&I topics and updates in our Vulcan University Pop-Up Training Series.

Diversity, equity and inclusion is also part of employee training. All employees completed DE&I awareness training in 2016; all new hires complete DE&I awareness training within their first 90 days, and all employees receive additional training every three years. The Unconscious Bias training launched in 2021 was completed by all employees by the end of 2022.

As a result of our commitment to diversity, equity and inclusion we have:

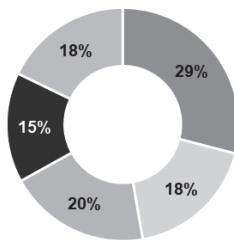
- Cultivated a diverse talent pipeline of next generation leaders through our operations/sales trainee program
- Expanded the diversity of our workforce at middle management and higher levels
- Increased the number of female hires and promotions in senior leadership roles
- Developed a five-year strategy through our Diversity, Equity and Inclusion Council
- Built partnerships with HBCUs to recruit talented minority students for internships and management training roles

Our Board of Directors is 42% diverse (four board members are women and two board members are Black).

We believe that learning is fundamental to every job, and we encourage our people to expand and explore their capabilities for continued growth throughout their careers with Vulcan. Our industry-leading training and development programs encourage collaboration and enable people to innovate and flourish on the job and in the community. These programs:

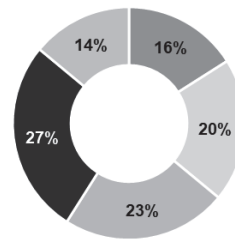
- Provide our employees with a Tuition Reimbursement Program, which pays up to 100% of tuition costs based on academic performance
- Encourage personal and professional growth through our mentoring program, which has graduated more than 1,900 employees
- Prepare future senior-level leaders through our Leadership Development Program in partnership with the University of North Carolina, Chapel Hill
- Offer mini MBA programs and other continuing education opportunities
- Deliver ongoing Vulcan Way of Operating technical and skills-based training modules
- Provide ongoing management and soft skill training through the Plant Manager Engagement Series

Employee Tenure



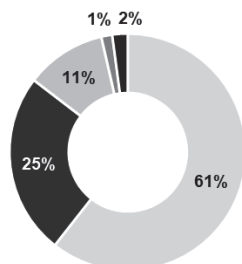
■ 0-2 yrs ■ 2-5 yrs ■ 5-10 yrs ■ 10-20 yrs ■ 20+ yrs

Employees by Age Group



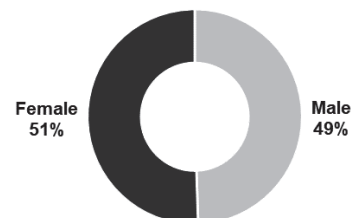
■ <30 yrs ■ 30-39 ■ 40-49 ■ 50-59 ■ 60+ yrs

Workforce Racial/Ethnic Diversity



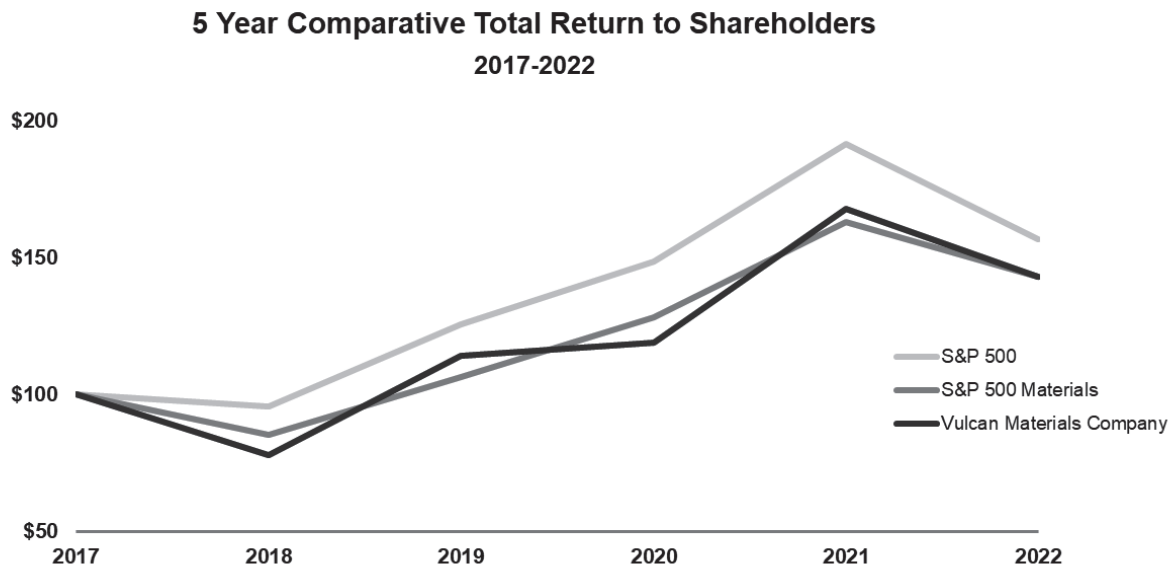
■ White ■ Hispanic/Latino ■ Black ■ Asian ■ Other/Not Reported

Salaried Non-Exempt Employees by Gender



SHAREHOLDER RETURN PERFORMANCE

Below is a graph comparing the performance of our common stock, with dividends reinvested, to that of the Standard & Poor's 500 Stock Index (S&P 500) and the S&P 500 Materials Index (S&P 500 Materials) from December 31, 2017 to December 31, 2022.



	2017	2018	2019	2020	2021	2022
Comparative Total Return ¹						
Vulcan Materials Company	\$ 100.00	\$ 77.73	\$ 114.32	\$ 119.04	\$ 167.99	\$ 142.96
S&P 500	\$ 100.00	\$ 95.62	\$ 125.72	\$ 148.85	\$ 191.57	\$ 156.90
S&P 500 Materials	\$ 100.00	\$ 85.30	\$ 106.28	\$ 128.28	\$ 163.31	\$ 143.22

¹ Assumes an initial investment at December 31, 2017 of \$100 in each stock/index, with quarterly reinvestment of dividends.

INVESTOR INFORMATION

We make available on our website, www.vulcanmaterials.com, free of charge, copies of our:

- Annual Report on Form 10-K
- Quarterly Reports on Form 10-Q
- Current Reports on Form 8-K

Our website also includes amendments to those reports filed with or furnished to the Securities and Exchange Commission (SEC) pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 as well as all Forms 3, 4 and 5 filed with the SEC by our executive officers and directors, as soon as the filings are made publicly available by the SEC on its EDGAR database (www.sec.gov).

In addition to accessing copies of our reports online, you may request a copy of our Annual Report on Form 10-K, including financial statements, by writing to Denson N. Franklin III, Senior Vice President, General Counsel and Secretary, Vulcan Materials Company, 1200 Urban Center Drive, Birmingham, Alabama 35242.

We have a:

- Business Conduct Policy applicable to all employees and directors
- Code of Ethics for the CEO and Senior Financial Officers

Copies of the Business Conduct Policy and the Code of Ethics are available on our website under the heading “Corporate Governance” under the “Investor Relations” tab. If we make any amendment to, or waiver of, any provision of the Code of Ethics, we will disclose such information on our website as well as through filings with the SEC.

Our Board of Directors has also adopted:

- Corporate Governance Guidelines
- Charters for our Audit, Compensation, Executive, Finance, Governance and Safety, Health & Environmental Affairs Committees

These documents meet all applicable SEC and New York Stock Exchange (NYSE) regulatory requirements.

The Charters of the Audit, Compensation and Governance Committees are available on our website under the “Investor Relations” tab (“Governance – Committee Composition” section), or you may request a copy of any of these documents by writing to Denson N. Franklin III, Senior Vice President, General Counsel and Secretary, Vulcan Materials Company, 1200 Urban Center Drive, Birmingham, Alabama 35242.

Information included on our website is not incorporated into, or otherwise made a part of, this report.

CERTIFICATIONS AND ASSERTIONS

The certifications of our Chief Executive Officer and Chief Financial Officer made pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 are included as exhibits to this Annual Report on Form 10-K. Additionally, on June 6, 2022 our Chief Executive Officer submitted to the NYSE the annual written affirmation required by the rules of the NYSE certifying that he was not aware of any violations of Vulcan Materials Company of NYSE corporate governance listing standards.

The following risks could materially and adversely affect our business, financial condition and results of operations, and cause the trading price of our common stock to decline. This list does not identify all risks that we face; our operations could also be affected by factors that are not presently known to us or that we currently consider to be immaterial. Due to risks and uncertainties, known and unknown, our past financial results may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods. You should also refer to the other information set forth in this Annual Report on Form 10-K, including Item 7 “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and Item 8 “Financial Statements and Supplementary Data.”

ECONOMIC/POLITICAL RISKS

Our business is dependent on the construction industry and is subject to economic cycles — Our products are principally sold to the U.S. construction industry. Construction spending is affected by general economic conditions, changes in interest rates, demographic shifts, industry cycles, employment levels, inflation and other business, economic and financial factors, any of which could contribute to a downturn in construction activities or spending in Vulcan-served markets. A downturn in Vulcan-served markets, particularly in our top revenue-generating markets, could have a material adverse effect on our business, financial condition, and results of operations.

Our business is exposed to the risks associated with a pandemic, epidemic or other public health emergency, such as the coronavirus (COVID-19) pandemic — The COVID-19 pandemic caused governments and businesses around the world to implement strict measures to help control the spread of the virus. The vast majority, if not all, of these measures are no longer in place in the United States. While our industry was deemed essential in every state in which we operate and we continued to operate across our footprint when such measures were in place, our operations, supply chain, customers, and transportation networks were negatively impacted by such measures (including our own) and the health of our employees. The progression of COVID-19 (which remains highly uncertain) or another pandemic may result in future measures taken by governments and/or businesses (including our own) that could negatively impact our business.

Our business is dependent on the timing and amount of federal, state and local funding for infrastructure — Our products are used in a variety of public infrastructure projects that are funded and financed by federal, state and local governments. In 2022, voters in local jurisdictions in California, Florida, Georgia, North Carolina, South Carolina, Texas and Virginia, among others, approved bond and revenue-raising measures to provide additional resources for transportation projects. In November 2021, the federal Infrastructure Investment and Jobs Act (IIJA), which included a five year road, bridge and public transportation program reauthorization at record levels, was signed into law. These state and federal highway programs, as well as funding for other aggregates-intensive public infrastructure, will support demand for our products for several years to come. However, given the time to set up new federal programs, varying state and local budgetary situations and the stages of projects, we cannot be entirely assured of the existence, amount and timing of appropriations for future public infrastructure projects.

We are subject to various risks arising from our international business operations and relationships — We are subject to both the risks of conducting international business and the requirements of the Foreign Corrupt Practices Act of 1977 (the FCPA) associated with our aggregates production facilities including those located in British Columbia, Canada; Puerto Cortés, Honduras; and Quintana Roo, Mexico. These risks have included, and may in the future include, changes in international trade policies, such as the United States - Mexico - Canada Agreement (USMCA), imposition of duties, taxes or government royalties, arbitrary changes to permits, zoning classifications or operating agreements, or overt acts by foreign governments, including expropriations and other forms of takings of property. Recently, the Mexican government has taken actions that adversely affect our property and operations in that country, including arbitrary shutdown orders to immediately cease underwater quarrying and extraction operations. We continue to vigorously pursue all lawful avenues available to us in order to protect our rights, under both Mexican and international law and intend to resume normal operations in Mexico as soon as permitted.

OPERATIONS, GROWTH AND COMPETITIVE RISKS

Within our local markets, we operate in a highly competitive industry — The construction aggregates industry is highly fragmented with a large number of independent local producers in a number of our markets. Additionally, in most markets, we also compete against large private and public companies, some of which are significantly vertically integrated. This significant competition could lead to lower prices and lower sales volumes.

Certain markets are experiencing the expanded use of aggregates substitutes — Recycled concrete and asphalt are increasingly being used in a number of our markets, particularly urban markets, as a substitute for aggregates. The expanded use of recycled concrete and asphalt could cause a significant reduction in the demand for aggregates.

Our long-term success depends upon securing and permitting aggregates reserves in strategically located areas — Construction aggregates have a high weight-to-price ratio, and transportation costs can quickly exceed the cost of the aggregates. Therefore, except for geographic regions that do not possess commercially viable deposits of aggregates and are served by rail, barge or ship, the markets for our products tend to be localized around our quarry sites and are served by truck. New quarry sites often take years to develop, so our strategic planning and new site development must stay ahead of actual growth. Additionally, in a number of urban and suburban areas in which we operate, it is increasingly difficult to permit new sites or expand existing sites due to community resistance. Therefore, our future success is dependent, in part, on our ability to accurately forecast future areas of high growth in order to locate optimal facility sites and on our ability to secure operating and environmental permits to operate at those sites.

Our future growth depends in part on acquiring and successfully integrating other businesses in our industry — Our ability to acquire and integrate businesses is dependent upon the availability of attractive businesses with owners that are willing to sell at fair market prices, conducting proper due diligence on such available businesses, and developing and executing integration plans for acquired businesses.

Our aggregates operations are subject to the risks of open pit and underground mining — Aggregates mining involves risks such as pit wall failures, pillar or ceiling collapse, flooding, and seismic events related to geologic conditions and our mining activities. Any ground control event could lead to serious injuries, loss of life, equipment damage, production delays or cessation, and increased operating costs.

FINANCIAL/ACCOUNTING RISKS

Our industry is capital intensive, resulting in significant fixed and semi-fixed costs — Due to the high levels of fixed capital required for extracting and producing construction aggregates, our earnings are highly sensitive to changes in product shipments. Therefore, it is important that our capital allocation decisions are properly informed and our capital deployment is well planned and executed.

A deterioration in our credit ratings and/or the state of the capital markets could negatively impact the cost and/or availability of financing — We currently have approximately \$4.0 billion of debt with maturities between 2023 and 2048. We expect to finance acquisitions with a combination of cash flows from existing operations, additional debt and/or additional equity. The mix of financing sources for acquisitions will be situationally dependent.

A deterioration in our credit ratings, regardless of the cause, could limit our debt financing options and increase the cost of such debt financing. While we do not anticipate a credit ratings downgrade and plan to manage our capital structure consistent with investment-grade credit metrics, we cannot assure our current credit ratings.

A deterioration in the state of the capital markets, regardless of our credit ratings, could impact our access to and/or cost of new debt or equity capital.

We use estimates in accounting for a number of significant items — As discussed more fully in “Critical Accounting Policies” under Item 7 “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” we use estimates and assumptions that require significant judgment in accounting for the following items:

- goodwill impairment
- impairment of long-lived assets excluding goodwill
- business combinations and purchase price allocation
- pension and other postretirement benefits
- environmental compliance costs
- claims and litigation including self-insurance
- income taxes

Additionally, the calculation of mineral resources and reserves are estimates and depend upon geological interpretation and statistical inferences or assumptions drawn from drilling and sampling analysis. These estimates are subject to uncertainty due to factors that include the inherent variability of the deposit and recoverability of saleable material in the mining process.

These estimates and assumptions could change significantly in the future and could adversely affect our financial position, results of operations or cash flows.

Our effective tax rate is subject to change — Factors that may increase our future effective tax rate include, but are not limited to: governmental authorities increasing statutory income tax rates or eliminating deductions or credits; the mix of jurisdictions in which our earnings are taxed; changes in the valuation of our deferred tax assets and liabilities; the effect our stock price has with regard to excess tax benefits from share-based compensation; adjustments to estimated taxes upon finalization of various income tax returns; the resolution of issues arising from income tax audits with various tax authorities; and the interpretation of income tax laws and/or administrative practices.

LEGAL/REGULATORY COMPLIANCE RISKS

Our operations are subject to changes in legal requirements and governmental policies — Our operations are affected by numerous federal, state and local laws and regulations, including those related to zoning, land use and environmental matters. In addition, our operations require numerous governmental approvals and permits, which often require us to make significant capital and operating expenditures to comply with the applicable requirements. Stricter laws and regulations, or more stringent interpretations of existing laws or regulations, may impose new liabilities, taxes or tariffs on us; reduce operating hours; require additional investment by us in pollution control equipment; create restrictions on our products; impede our access to reserves or hamper the opening of new, or the expansion of existing, plants or facilities.

We are involved in certain environmental matters and other legal proceedings — We are involved in environmental investigations and cleanups at sites that we own or owned, where we operate or have operated or where we sent materials for recycling or disposal, as well as related offsite investigations and cleanups. We are also involved in several other complex, non-environmental, legal proceedings. As required by GAAP, we establish reserves when a loss is determined to be probable and the amount can be reasonably estimated. Our assessment of probability and loss estimates are based on the facts and circumstances known to us at a particular point in time. Subsequent developments related to these matters may affect our assessment and estimates of loss contingency. For a description of our current significant legal proceedings and environmental matters, see Note 12 “Commitments and Contingencies” in Item 8 “Financial Statements and Supplementary Data.”

Climate change legislation or regulations may adversely impact our business — A number of governmental bodies have introduced or are contemplating legislative and regulatory change in response to the potential impacts of climate change. Such legislation or regulation, if enacted, potentially could include provisions for a “cap and trade” system of allowances and credits or a carbon tax, among other provisions, and adversely impact the availability and/or cost of purchased electricity.

Expectations relating to environmental, social and governance (ESG) considerations expose us to potential liabilities, increased costs, reputational harm, and other adverse effects on our business — Many governments, regulators, investors, employees, customers and other stakeholders are increasingly focused on ESG considerations relating to businesses, including climate change and greenhouse gas emissions, human and civil rights, and diversity, equity and inclusion. In addition, we make statements about our ESG goals and initiatives through our ESG report, our other non-financial reports, information provided on our website, press releases and other communications. Responding to these ESG considerations and implementing these goals and initiatives involves risks and uncertainties, requires investments, and depends in part on third-party performance or data that is outside our control. We cannot guarantee that we will achieve our announced ESG goals and initiatives. In addition, some stakeholders may disagree with our goals and initiatives. Any failure, or perceived failure, by us to achieve our goals, further our initiatives, adhere to our public statements, comply with federal, state or international ESG laws and regulations, or meet evolving and varied stakeholder expectations and standards could result in legal and regulatory proceedings against us.

We may incur material costs and losses as a result of claims that our products do not meet regulatory requirements or contractual specifications — Our operations involve providing products that must meet building code or other regulatory requirements and contractual specifications for durability, stress-level capacity, weight-bearing capacity and other characteristics. If we fail to provide products meeting these requirements and specifications, product liability claims may arise against us. We have resolved certain claims of this kind, but there are currently open claims, and we expect future claims, some of which may exceed our product liability insurance coverage.

PERSONNEL RISKS

Our future success depends upon attracting and retaining qualified personnel, particularly in sales and operations — Our success in attracting qualified personnel, particularly in the areas of sales and operations, is affected by changing demographics of the available pool of workers with the training and skills necessary to fill the available positions, the impact on the labor supply due to general economic conditions, and our ability to offer competitive compensation and benefit packages.

Disputes with organized labor could disrupt our business operations — Labor unions represent approximately 13% of our workforce. Disputes with our trade unions, or the inability to renew our labor agreements, may lead to strikes or other actions that could disrupt our business operations.

GENERAL RISK FACTORS

We are dependent on information technology systems (our own and those of our service providers such as Amazon Web Services), and these systems contain confidential or sensitive data about our business, employees, suppliers, and customers — The protection of our information technology systems and the data contained therein is critical to us. We have a dedicated information security team that executes our information security program and routinely tests the security of our applications, networks, databases, etc. The loss of use of information technology systems (whether ours or our service providers), regardless of the cause, would disrupt our business operations. The failure to keep secure the confidential and sensitive data about our business, employees, suppliers and customers, regardless of the reason for such failure, could expose us, our employees, suppliers and/or our customers to the misuse of such data and could result in reputational harm and financial liability. The Audit Committee, which has oversight responsibility for our information security program, is briefed on such program at least twice annually, and our Chief Financial Officer is briefed on such program at least quarterly.

Weather can, and climate change may, materially affect our operations — Almost all of our products are consumed outdoors in the public or private construction industry, and our production and distribution facilities are located outdoors. Inclement weather affects both our ability to produce and distribute our products and affects our customers' short-term demand because their work also can be hampered by weather. Potential impacts of climate change include disruption in production and product distribution due to impacts from major storm events, shifts in regional weather patterns and intensities, availability of energy and/or water, and sea level changes. A number of our facilities are located in desert climates, and while we have not experienced any significant shortages of energy or water in the past, we cannot guarantee that we will not in the future. Furthermore, public expectations for addressing climate change could result in increased energy, transportation and raw material costs and may require us to make additional investments in facilities and equipment.

Our product distribution is multi-modal and often dependent upon third-party providers — Our products are distributed either by truck to local markets or by rail, barge or oceangoing vessel to remote markets. The distribution and cost of distribution could be negatively affected by factors such as rail service interruptions or rate increases, tariffs, rising fuel costs, truck/railcar/barge shortages, truck driver and rail crew shortages, capacity constraints and minimum tonnage requirements. Additionally, weather events, such as hurricanes and tornadoes, can negatively impact our distribution network.

The production of our products is dependent upon the supply chain for several key inputs — In our production and distribution processes, we consume significant amounts of electricity, diesel fuel, liquid asphalt and other petroleum-based resources. Additionally, we operate significant amounts of fixed and mobile equipment that require regular maintenance and replacement of parts. The availability and pricing of these resources are subject to market forces.

ITEM 1B**UNRESOLVED STAFF COMMENTS**

We have not received any written comments from the Securities and Exchange Commission staff regarding our periodic or current reports under the Exchange Act of 1934 that remain unresolved.

AGGREGATES

As the largest U.S. supplier of construction aggregates, we have mining properties across the U.S. and in the Bahamas, Canada, Honduras, Mexico and the U.S. Virgin Islands. We principally serve markets in twenty-two states, the U.S. Virgin Islands, Washington D.C., and the local markets surrounding our operations in Freeport, Bahamas; British Columbia, Canada; Puerto Cortés, Honduras and Quintana Roo, Mexico. Our primary focus is serving states and metropolitan markets in the U.S. that are expected to experience the most significant growth in population, households and employment. These three demographic factors are significant drivers of demand for aggregates.

Our mining properties are categorized as follows: (1) Production Stage – properties with reported proven or probable reserves where we are actively mining aggregates, (2) Development Stage – properties with reported proven or probable reserves where we are not actively mining aggregates, and (3) Exploration Stage – properties with no reported reserves. The following map illustrates the location of our 234 aggregates production stage properties and 78 development stage properties. Our 36 aggregates exploration stage properties are excluded from this map.



For additional information regarding our Calica operations in Mexico, see Note 12 "Commitments and Contingencies" in Item 8 "Financial Statements and Supplementary Data."

Production stage properties generally include one or more scale houses, office buildings, maintenance shops and processing plants.

Our aggregates resources and reserves are our foundation and fundamental to our success. However, no individual mining property is individually material to our business. As of December 31, 2022, we directly operated substantially all of our aggregates production facilities.

Our aggregates resources and reserves estimates are calculated in accordance with subpart 1300 of Regulation S-K under the Exchange Act. Our proven and probable aggregates reserves may not be comparable to similar information regarding aggregates reserves disclosed in accordance with the guidance of other countries. We conduct ongoing studies of our deposits to optimize economic values and to manage risk.

We revise our mine plans and estimates of proven and probable aggregates reserves as required and in accordance with the latest available studies. Once mine plans are initially established, the ongoing viability of the plan is reviewed regularly with the benefit of hindsight. Discussions between mine planning, operations, and management determine the need for adjustments, additional resources, drilling information, or other key information. While construction aggregates reserves and resources are relatively consistent, conditions can change with time that require a newly tailored solution. Examples of changes include fluctuations in physical or chemical parameters of the product, sales product shifts, overburden removal or placement management, structural changes, entitlement changes and land additions.

Our estimates of proven and probable aggregates reserves are prepared by and are the responsibility of our employees. The methodology employed takes a systematic approach to collecting sufficient information to estimate the reserves and resources. Each of our reserve and resource bearing properties is evaluated with supporting information to identify its geological, mining and economic viability. The supporting information includes aerial photography, topography, geologic maps, aggregates rock quality information (including core drilling, hand samples, and bulk sample testing, and/or geophysical data), hydrology, archaeology, biology, property boundary information, zoning information, and relevant municipal and environmental permitting information. The information is collected by experienced mining engineers and geologists who determine the extent of a resource using a combination of methods including ordinary planimetric based measurements to computer aided design 3-dimensional models.

The results of the supporting information are reviewed by various levels of management, including our “qualified person” (as defined by subpart 1300). This qualified person then verifies that the information adheres to regulatory mandated quantification methods. The economic viability of our reserves is evaluated taking into account historical performance of relevant operations and sales forecasts, among other factors.

Measurements of our proven and probable aggregates reserves have inherent risks. These risks include the accuracy and completeness of geologic information, the interpretation of the data, operational execution, market shifts, structural events and the uncertainty of uncovered material. Management and the qualified person work together to assess these risks regularly and amend the reserves assessments with new information as appropriate. New information can yield site changes that require capital expenditures or cause production performance changes that have financial impacts.

AGGREGATES RESOURCES

Mineral resources are defined as a concentration or occurrence of material of economic interest in or on the earth's crust in such form, grade or quality, and quantity that there are reasonable prospects for its economic extraction. Mineral resources are classified into three categories, in decreasing level of confidence, as follows:

- Measured — based on conclusive geological evidence and sampling, meaning that evidence is sufficient to test and confirm geological and grade or quality continuity. After applying modifying factors (as noted in the Aggregates Reserves section below), measured resources may be converted to either proven or probable reserves
- Indicated — based on adequate geological evidence and sampling, meaning that evidence is sufficient to establish geological and grade or quality continuity with reasonable certainty. After applying modifying factors, indicated resources may be converted to probable reserves
- Inferred — based on limited geological evidence and sampling, meaning that evidence is only sufficient to establish that geological and grade or quality continuity is more likely than not. Inferred resources may not be converted to reserves

Our reported aggregates resources do not include amounts that have been identified as mineral reserves. Our 2022 measured, indicated and inferred aggregates resources are based on an initial assessment using an average sales price assumption ranging from approximately \$6.00 to \$24.00 per ton depending on the location/market. The table below presents, by division, the tons of measured, indicated and inferred aggregates resources and the percentage of aggregates resources by commodity as of December 31, 2022.

Division ¹	(millions of tons)				Percentage by Commodity	
	Aggregates Resources				Stone ²	Sand & Gravel
	Measured (M)	Indicated (I)	Total (M) + (I)	Inferred		
Central	581.3	1,167.5	1,748.8	529.5	16.4%	0.1%
East	2,685.7	757.9	3,443.6	295.3	27.1%	0.0%
International	0.0	61.1	61.1	0.0	0.4%	0.0%
Mountain West	31.5	0.4	31.9	26.7	0.0%	0.4%
Northeast	947.4	16.0	963.4	19.2	6.7%	0.4%
South	581.0	578.7	1,159.7	382.8	10.1%	1.1%
Southern Gulf Coast	690.0	108.3	798.3	218.4	7.1%	0.3%
Southwest	568.1	97.3	665.4	500.0	7.4%	1.1%
Western	521.6	1,751.9	2,273.5	666.6	12.1%	9.3%
Total	6,606.6	4,539.1	11,145.7	2,638.5	87.3%	12.7%

¹ The divisions are defined by states/countries as follows:

Central Division — Illinois, Kentucky and Tennessee

East Division — North Carolina, South Carolina and North/Central Georgia

International Division — Puerto Cortés (Honduras) and Quintana Roo (Mexico)

Mountain West Division — Arizona and New Mexico

Northeast Division — Delaware, Maryland, New Jersey, New York, Pennsylvania, Virginia and Washington D.C.

South Division — Florida (excluding panhandle), South Georgia, Freeport (Bahamas) and the U.S. Virgin Islands

Southern Gulf Coast Division — Alabama, Arkansas, Florida Panhandle, Louisiana and Mississippi

Southwest Division — Oklahoma and Texas

Western Division — California and British Columbia (Canada)

² Stone: amphibolite, argillite, gneiss, granite, limestone, marble, quartzite and sandstone

AGGREGATES RESERVES

Mineral reserves are defined as the economically mineable part of a measured or indicated mineral resource. Mineral reserves are classified into two categories, in decreasing level of confidence, as follows:

- Proven — those reserves for which the quantity is computed from dimensions revealed by drill data, together with other direct and measurable observations, such as outcrops, trenches and quarry faces. The grade and quality of those reserves are computed from the results of detailed sampling, and the sampling and measurement data are spaced so closely and the geologic character is so well defined that size, shape, depth and mineral content of reserves are well established
- Probable — those reserves for which quantity, grade and quality are computed partly from specific measurements and partly from projections based on reasonable, though not drilled, geologic evidence. The degree of assurance, although lower than that for proven reserves, is high enough to assume continuity between points of observation

Reported proven and probable reserves include only quantities that are owned in fee or under lease and for which all appropriate zoning and permitting have been obtained through permit, contract or grandfathered status. We apply modifying factors to establish the economic viability of the reserves, as follows:

- Contractual and governmental regulations (for example, leases, zoning, permits and reclamation plans) often set limits on the areas, depths and lengths of time allowed for mining, stipulate setbacks and slopes that must be left in place, and designate which areas may be used for surface facilities, berms, and overburden or waste storage, among other requirements and restrictions
- Technical and economic factors affect the estimates of reported reserves regardless of what might otherwise be considered proven or probable based on a geologic analysis. For example, excessive overburden or weathered rock, rock quality issues, excessive mining depths, groundwater issues, overlying wetlands, endangered species habitats, and rights of way or easements may effectively limit the quantity of reserves considered proven and probable
- Mining and processing waste are also factored in our computations for proven and probable reserves

Our 2022 proven and probable aggregates reserves were estimated by internal experts (i.e. geologists or engineers). The economic viability of our reserves were determined using average aggregates prices ranging from approximately \$6.00 to \$24.00 per ton depending on the location/market.

The tables below present by reserve classification — proven, probable and total proven & probable — and by division, the tons of aggregates reserves as of December 31, 2022 and the percentages by commodity type. The third (proven & probable) table also notes the 2022 production.

Division ¹	(millions of tons)		Percentage by Commodity Type	
	Aggregates Reserves		Stone ³	Sand & Gravel
	Proven			
Central	1,965.8		16.8%	0.1%
East ⁴	2,688.4		23.1%	0.0%
International ⁵	476.8		4.1%	0.0%
Mountain West	257.6		0.7%	1.5%
Northeast	1,380.4		11.4%	0.5%
South	1,007.8		7.1%	1.5%
Southern Gulf Coast	1,705.3		14.7%	0.0%
Southwest	1,348.7		10.2%	1.4%
Western	795.4		4.0%	2.9%
Total Proven Reserves	11,626.2		92.1%	7.9%

Division ¹	(millions of tons)		Percentage by Commodity Type	
	Aggregates Reserves		Stone ³	Sand & Gravel
	Probable			
Central	1,067.5		26.7%	0.1%
East ⁴	1,098.5		27.6%	0.0%
International	0.0		0.0%	0.0%
Mountain West	66.2		0.5%	1.1%
Northeast	439.1		10.1%	1.0%
South	427.8		10.0%	0.7%
Southern Gulf Coast	46.6		1.2%	0.0%
Southwest	105.0		2.6%	0.0%
Western	731.7		9.3%	9.1%
Total Probable Reserves	3,982.4		88.0%	12.0%

Division ¹	(millions of tons)		Percentage by Commodity Type	
	Aggregates Reserves	2022 ²	Stone ³	Sand & Gravel
	Total Proven & Probable	Production		
Central	3,033.3	34.0	19.4%	0.1%
East ⁴	3,786.9	47.5	24.3%	0.0%
International ⁵	476.8	5.0	3.1%	0.0%
Mountain West	323.8	8.6	0.6%	1.5%
Northeast	1,819.5	26.3	11.0%	0.6%
South	1,435.6	27.3	7.8%	1.3%
Southern Gulf Coast	1,751.9	27.6	11.2%	0.0%
Southwest	1,453.7	32.4	8.3%	1.0%
Western	1,527.1	26.3	5.3%	4.5%
Total Proven & Probable Reserves	15,608.6	235.0	91.0%	9.0%

¹ The divisions are defined geographically in the first table within this Item 2 - Properties.

² Production totals for the two prior years were as follows: 2021 – 222.8 million tons and 2020 – 203.1 million tons.

³ Stone: amphibolite, argillite, gneiss, granite, limestone, marble, quartzite and sandstone.

⁴ Includes a maximum of 285.7 million tons of reserves encumbered by volumetric production payments as defined in Note 2 “Revenues” in Item 8 “Financial Statements and Supplementary Data.”

⁵ Includes 407.6 million tons of reserves at our Calica quarry subject to the NAFTA Arbitration disclosed in Note 12 “Commitments and Contingencies” in Item 8 “Financial Statements and Supplementary Data.”

Our current estimate of 15.6 billion tons of proven and probable aggregates reserves is unchanged from the prior year's estimate. Estimates of reserves are of recoverable stone, sand and gravel of suitable quality for economic extraction, based on drilling and studies by our geologists and engineers, recognizing reasonable economic and operating constraints as to maximum depth of overburden and stone excavation, and subject to permit or other restrictions.

Of the 15.6 billion tons of estimated proven and probable aggregates reserves reported at the end of 2022, 13.2 billion tons or 85% are located on production stage properties and 2.4 billion tons or 15% are located on development stage properties. We do not report aggregates reserves for exploration stage sites.

Of the 15.6 billion tons of aggregates reserves at December 31, 2022, 9.2 billion tons or 59% are located on owned land and 6.4 billion tons or 41% are located on leased land. Our land portfolio consists of more than 240,000 acres.

In addition to our aggregates mining properties we operate aggregates sales yards and recycled concrete plants. The table below presents, by division, the count of active aggregates facilities as of December 31, 2022 and the types of facilities operated.

Division ²	Count of Active Aggregates Operating Facilities					
	Production Stage Mining Properties ¹			Sales	Recycled	Total
	Stone	Sand & Gravel	Total	Yards	Plants	
Central	48	3	51	4	10	65
East	51	0	51	8	7	66
International ³	2	0	2	0	0	2
Mountain West	2	9	11	1	4	16
Northeast	17	6	23	26	13	62
South	12	8	20	19	1	40
Southern Gulf Coast	26	0	26	20	2	48
Southwest	17	14	31	23	1	55
Western	10	9	19	4	15	38
Total	185	49	234	105	53	392

¹ The facility counts above only include mining properties with production in the current year (excludes for example, mining properties with sales from existing stockpiles with no current year production).

² The divisions are defined geographically in the first table within this Item 2 - Properties.

³ For additional information regarding our Calica operations, see Note 12 "Commitments and Contingencies" in Item 8 "Financial Statements and Supplementary Data."

ASPHALT, CONCRETE AND CALCIUM

As of December 31, 2022, we operated a number of facilities producing asphalt mix, ready-mixed concrete and calcium in several of our divisions as reflected in the table below:

<i>Division</i> ¹	<i>Asphalt</i> ² <i>Facilities</i>	<i>Concrete</i> <i>Facilities</i>	<i>Calcium</i> ³ <i>Facilities</i>
Central	10	0	0
East	0	0	0
International	0	2	0
Mountain West	18	0	0
Northeast	0	38	0
South	0	0	1
Southern Gulf Coast	2	0	0
Southwest	15	74	0
Western	26	28	0
Total	71	142	1

¹ The divisions are defined geographically in the first table within this Item 2 - Properties. Our International Division has no asphalt, concrete or calcium facilities.

² Asphalt facilities for the Central, Southern Gulf Coast and Southwest Divisions are comprised of asphalt mix facilities and construction paving businesses.

³ Comprised of a ground calcium plant in Brooksville, Florida.

In addition to the concrete facilities above, we operate a fleet of volumetric mixer trucks (which are effectively mobile mini-plants) serving major markets in Texas. Our fleet is one of the largest volumetric operations in the U.S. ready-mixed concrete market. These trucks mix concrete to the customer's specification on the job site, better serving smaller jobs and specialized applications, and allow flexibility for servicing remote job locations. Because of their versatility, these trucks offer the contractor multiple options for a single job without the inconvenience or added costs typically associated with standard ready-mix trucks delivering special or short-loads to a job site. Furthermore, because of their unique on-demand production capabilities, these trucks minimize the amount of wasted concrete which improves margins and reduces environmental impact.

The asphalt and concrete facilities are able to meet their needs for raw material inputs with a combination of internally sourced and purchased raw materials.

Our Calcium segment operates a quarry at Brooksville, Florida that provides feedstock for the ground calcium operation. The Brooksville quarry is not individually material to our business. Calcium resources and reserves are outlined in the table below:

<i>Location</i>	<i>(millions of tons)</i>			
	<i>Calcium Resources</i>			
	<i>Measured (M)</i>	<i>Indicated (I)</i>	<i>Total (M) + (I)</i>	<i>Inferred</i>
Brooksville	0.0	0.0	0.0	0.0

<i>Location</i>	<i>(millions of tons)</i>			<i>2022</i> ¹ <i>Production</i>
	<i>Calcium Reserves</i>			
	<i>Proven</i>	<i>Probable</i>	<i>Total</i>	
Brooksville	4.0	7.1	11.1	0.2

¹ Production totals for the two prior years were as follows: 2021 – 0.3 million tons and 2020 – 0.3 million tons.

Our production stage, leased Brooksville limestone quarry produces a supplement for end-use products, such as animal feed and plastics. High purity limestone is inert and relatively inexpensive compared to the other components used in these end-use products. The Brooksville limestone quarry has an average calcium carbonate (CaCO₃) content of 97%.

HEADQUARTERS

Our headquarters are located in an office complex in Birmingham, Alabama. The office space consists of approximately 184,410 square feet and is leased through December 31, 2038. The annual rental cost for the current term of the lease is approximately \$4.2 million.

ITEM 3

LEGAL PROCEEDINGS

We are subject to occasional governmental proceedings and orders pertaining to occupational safety and health or to protection of the environment, such as proceedings or orders relating to noise abatement, air emissions or water discharges. As part of our continuing program of stewardship in safety, health and environmental matters, we have been able to resolve such proceedings and to comply with such orders without any material adverse effects on our business.

We are a defendant in various lawsuits in the ordinary course of business. It is not possible to determine with precision the outcome of, or the amount of liability, if any, under these lawsuits, especially where the cases involve possible jury trials with as yet undetermined jury panels.

We were not subject to any penalties in 2022 for failure to disclose transactions identified by the Internal Revenue Service as abusive under Internal Revenue Code Section 6707A.

See Note 12 "Commitments and Contingencies" in Item 8 "Financial Statements and Supplementary Data" for a discussion of our material legal proceedings.

ITEM 4

MINE SAFETY DISCLOSURES

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

INFORMATION ABOUT OUR EXECUTIVE OFFICERS

The names, positions and ages, as of February 20, 2023, of our executive officers are as follows:

<i>Name</i>	<i>Position</i>	<i>Age</i>
J. Thomas Hill	Chairman, President and Chief Executive Officer	63
Mary Andrews Carlisle	Senior Vice President and Chief Financial Officer	42
Stanley G. Bass	Chief Strategy Officer	61
Thompson S. Baker II	Chief Operating Officer	64
Darren L. Hicks	Senior Vice President and Chief Human Resources Officer	53
David P. Clement	Senior Vice President, East Division, Operations Support and Procurement	62
Denson N. Franklin III	Senior Vice President, General Counsel and Secretary	59
Jerry F. Perkins Jr.	Senior Vice President, Southern Gulf Coast and Central Divisions, Commercial Excellence	53
Ronnie A. Pruitt	Senior Vice President, Southwest and Western Divisions	52
Jason P. Teter	Senior Vice President, Mountain West, Northeast and South Divisions	48
Randy L. Pigg	Vice President, Controller and Principal Accounting Officer	50

The principal occupations of the executive officers during the past five years are set forth below:

J. Thomas Hill was elected Chairman of the Board of Directors effective January 1, 2016 and President and Chief Executive Officer in July 2014. Previously, he served as Executive Vice President and Chief Operating Officer from January 2014 to July 2014, and Senior Vice President of the South Region from December 2011 to December 2013. Prior to that, he served in a number of positions with Vulcan including President, Florida Rock Division from September 2010 to December 2011.

Mary Andrews Carlisle was appointed Chief Financial Officer effective September 1, 2022. In her prior role as Vice President, Finance, she led a number of key financial, operational and corporate initiatives since March 2020. Ms. Carlisle joined the Company in 2006 and has held roles of increasing responsibility in multiple divisions as well as in corporate finance and business development.

Stanley G. Bass was elected Chief Strategy Officer in March 2021 after serving as Chief Growth Officer since February 2016. He served as Senior Vice President of the Western and Mountain West Divisions from January 2015 to February 2016, and Senior Vice President of the West Region from September 2013 to December 2014. Prior to that, he served as Senior Vice President of the Central and West Regions from February 2013 to September 2013 and Senior Vice President of the Central Region from December 2011 to February 2013. Prior to that, he served in a number of positions with Vulcan including President, Midsouth and Southwest Divisions from September 2010 to December 2011.

Thompson S. Baker II was appointed Chief Operating Officer effective May 2019. He previously served as Senior Vice President from March 2017 to April 2019. Prior to that, he served in a number of positions with Vulcan, including President of the Florida Rock Division, before serving as Chief Executive Officer of FRP Holdings, Inc. from October 2010 to March 2017 and President and Chief Executive Officer of Patriot Transportation Holding, Inc. from December 2014 to March 2017.

Darren L. Hicks was appointed Chief Human Resources Officer effective March 1, 2022. He previously served as Vice President, Human Resources, where he focused on talent management, leadership development and diversity, equity and inclusion initiatives. Mr. Hicks joined the Company in 1994 and has held various positions in human resources at both the corporate and division level.

David P. Clement is Senior Vice President of the East Division, Operations Support and Procurement. He previously served as Senior Vice President of the Central Division since August 2021 and, prior to that role, served as Senior Vice President of the Mountain West and Western Divisions since March 2020. He first joined the organization as an operations management trainee in 1983 and progressed to the position of area production manager in 1993. After spending a few years at Pioneer Mid-Atlantic and working as a consultant, he rejoined Vulcan in 2004 as Vice President and General Manager of the Midwest Division. He has held the positions of Vice President of Operations for the Midwest Division, Vice President and General Manager of the Central Region, Senior Vice President of the Central Region and President of the Central Division.

Denson N. Franklin III joined the Company in December 2019 as Senior Vice President, General Counsel and Secretary. Prior to that, he was a partner at Bradley Arant Boult Cummings LLP, a law firm based in Birmingham, Alabama. While at Bradley, he served as Vulcan's primary outside counsel for more than 20 years and advised other companies in the construction materials, building and engineering industries.

Jerry F. Perkins Jr. is Senior Vice President of the Central and Southern Gulf Coast Divisions as well as Commercial Excellence. He previously served as Senior Vice President of the Southern Gulf Coast and Mountain West Divisions since August 2021 and, prior to that role, served as Senior Vice President of the Southern Gulf Coast and Southwest Divisions since March 2020. Prior to that role, he was President of the Southern and Gulf Coast Division. He also served as General Counsel and Corporate Secretary and held various legal leadership roles for Vulcan. Before joining Vulcan in 2002, he worked as a certified public accountant (CPA) at a global accounting firm and was an attorney with Burr & Forman LLP in Birmingham, Alabama.

Ronnie A. Pruitt is Senior Vice President of the Southwest and Western Divisions. He joined Vulcan as part of Vulcan's August 2021 acquisition of U.S. Concrete, Inc. He held various leadership roles at U.S. Concrete, including President and Chief Executive Officer from April 2020 to August 2021, President and Chief Operating Officer from April 2019 to April 2020, and Senior Vice President and Chief Operating Officer from October 2015 to April 2019. Prior to joining U.S. Concrete in 2015, he served as the Vice President of Cement Sales of Martin Marietta Materials, Inc. and held various positions at Texas Industries, Inc.

Jason P. Teter is Senior Vice President of the Mountain West, Northeast and South Divisions. Prior to his current position, he was Senior Vice President of the Mideast and Southeast Divisions. He joined Vulcan in 2013 as Vice President of Business Development. He previously served as Vice President of Finance, President of the Southeast Division and President of the Southern Gulf Coast Division. Before joining Vulcan, he spent ten years in various finance, business development and general management positions with Lafarge North America.

Randy L. Pigg was elected Vice President, Controller and Principal Accounting Officer in April 2018. He served as Vice President, Accounting since June 2016, and prior to that served as Director, Financial Shared Services since April 2014. Prior to that, he served in a number of positions with Vulcan, including Manager Financial Research & Reporting and Finance Director of the Central Region.

PART II

ITEM 5

MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Our common stock is traded on the New York Stock Exchange (ticker symbol VMC). As of February 14, 2023, the number of shareholders of record was 2,158.

ISSUER PURCHASES OF EQUITY SECURITIES

Purchases of our equity securities during the quarter ended December 31, 2022 are summarized below:

<i>Period</i>	<i>Total Number of Shares Purchased</i>	<i>Average Price Paid Per Share</i>	<i>Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs</i>	<i>Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs¹</i>
2022				
Oct 1 - Oct 31	0	\$ 0.00	0	8,064,851
Nov 1 - Nov 30	0	\$ 0.00	0	8,064,851
Dec 1 - Dec 31	0	\$ 0.00	0	8,064,851
Total	0	\$ 0.00	0	

¹ In February 2017, our Board of Directors authorized us to purchase up to 10,000,000 shares of our common stock. As of December 31, 2022, there were 8,064,851 shares remaining under this authorization. Depending upon market, business, legal and other conditions, we may purchase shares from time to time through the open market (including plans designed to comply with Rule 10b5-1 of the Securities Exchange Act of 1934) and/or through privately negotiated transactions. The authorization has no time limit, does not obligate us to purchase any specific number of shares, and may be suspended or discontinued at any time.

We did not have any unregistered sales of equity securities during the fourth quarter of 2022.

The objective of our management's discussion and analysis is to help investors understand our operations and current business environment from the perspective of our management. The following discussion should be read in conjunction with the consolidated financial statements and the accompanying notes contained in this Annual Report. The following generally includes a comparison of our results of operations and liquidity and capital resources for 2022 and 2021. For the discussion of changes from 2020 to 2021 and other financial information related to 2020, refer to Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, of our Form 10-K for the year ended December 31, 2021 filed with the Securities and Exchange Commission on February 25, 2022.

EXECUTIVE SUMMARY

FINANCIAL SUMMARY FOR 2022 (compared to 2021)

- Total revenues increased \$1,763.0 million, or 32%, to \$7,315.2 million
- Gross profit increased \$184.3 million, or 13%, to \$1,557.7 million
- Selling, administrative and general (SAG) expenses increased 23% to \$515.1 million and decreased 0.5 percentage point (50 basis points) as a percentage of total revenues
- Operating earnings decreased \$59.4 million, or 6%, to \$951.4 million
- Earnings attributable to Vulcan from continuing operations were \$4.45 per diluted share, compared to \$5.05 per diluted share
- Adjusted earnings attributable to Vulcan from continuing operations were \$5.11 per diluted share, compared to \$5.04 per diluted share
- Net earnings attributable to Vulcan were \$575.6 million, a decrease of \$95.2 million, or 14%
- Adjusted EBITDA was \$1,625.6 million, an increase of \$174.3 million, or 12%
- Aggregates segment sales increased \$927.8 million, or 21%, to \$5,272.8 million
- Aggregates segment freight-adjusted revenues increased \$561.3 million, or 17%, to \$3,875.2 million
 - Shipments increased 6%, or 13.5 million tons, to 236.3 million tons
 - Freight-adjusted sales price increased 10.3%, or \$1.53 per ton to \$16.40
- Aggregates segment gross profit increased \$112.8 million, or 9%, to \$1,408.5 million
 - Unit profitability (as measured by gross profit per ton) increased 3% to \$5.96 per ton
- Asphalt, Concrete and Calcium segment sales increased \$1,040.4 million, or 67%, to \$2,591.9 million, collectively
- Asphalt, Concrete and Calcium segment gross profit increased \$71.5 million, or 92%, to \$149.2 million, collectively
- Returned capital to shareholders via dividends of \$212.6 million @ \$1.60 per share versus \$196.4 million @ \$1.48 per share

Our aggregates-led business delivered solid results in 2022 as our teams executed well in a challenging macro-environment. We continued to improve our aggregates unit profitability and demonstrate the resiliency of our business. While net earnings attributable to Vulcan were down 14%, our relentless focus on our operating disciplines coupled with nimble pricing actions to overcome inflationary pressures led to a 12% increase in our full year Adjusted EBITDA. We carry solid pricing momentum into 2023 and are focused on our operating disciplines to manage costs and improve efficiencies. By controlling what we can control, we expect to deliver another year of earnings growth.

At year-end 2022, total debt to Adjusted EBITDA was 2.4x (2.3x on a net debt basis). We remain committed to our stated long-term target leverage range of 2.0x to 2.5x total debt to Adjusted EBITDA.

Return on invested capital was 13.5% and we remain committed to driving further improvement through solid operating earnings growth coupled with disciplined capital management.

Adjusted EBITDA, Aggregates segment freight-adjusted revenues, net debt to Adjusted EBITDA and Return on invested capital are non-GAAP measures. See the definitions and reconciliations within this Item 7 under the caption "Reconciliation of Non-GAAP Financial Measures."

CAPITAL ALLOCATION

Our balanced approach to capital allocation remains unchanged. Through economic cycles we intend to balance reinvestment in our business, growth through acquisitions, and return of capital to shareholders while maintaining financial strength and flexibility evidenced by our strong balance sheet and investment-grade credit ratings. Our capital allocation priorities are as follows:

1. Operating Capital (maintain and grow the value of our franchise)
2. Growth Capital (including greenfields and acquisitions)
3. Dividend Growth (with a keen focus on sustainability)
4. Return Excess Cash to Shareholders (primarily via share repurchases)

Our first priority is to maintain and protect our valuable franchise by keeping our operations in good working order to ensure the production of high quality materials and timely delivery of goods and services to our customers. This capital requirement expands and contracts as production and shipment levels change. During 2022, we invested \$380.1 million to replace or improve existing property, plant & equipment.

Our second priority is to grow our franchise through internal growth projects and business acquisitions. Internal growth projects have generally been among our highest returning projects. During 2022, we invested \$232.5 million in internal growth projects to secure new aggregates reserves, develop new production and/or distribution sites, enhance our distribution capabilities and support the targeted growth of our asphalt and concrete operations. For business acquisitions, we tend to look for bolt-on acquisitions which are easy to integrate and will pursue large business combinations that are the right fit and the right price. During August 2021, we closed on one such large business combination (U.S. Concrete) for \$1,634.5 million. We use strategic and returns-based criteria to price potential acquisitions and are disciplined in our approach. We look at a lot of potential acquisitions and only make offers on a few. We closed four business acquisitions during 2022 for total consideration of \$594.6 million.

Our third priority is growing the dividend with a keen focus on sustainability through the economic cycle. During 2022, we paid a dividend per share of \$1.60 and paid total dividends of \$212.6 million.

And finally, if there is excess cash after fulfilling the prior capital allocation priorities, we will consider returning cash to shareholders via share repurchases. During 2022, we made no share repurchases.

For a detailed discussion of our acquisitions and divestitures, see Note 19 “Acquisitions and Divestitures” in Item 8 “Financial Statements and Supplementary Data.”

MARKET DEVELOPMENTS AND OUTLOOK

Most leading indicators of demand remain healthy in the near term, and we carry strong pricing momentum into 2023. Overall shipments will be dependent upon the depth and duration of the decline in residential construction activity, the timing of highway starts converting to aggregates shipments and the impact of rising interest rates on private nonresidential construction activity as the year progresses. We are encouraged by the strength in leading indicators that support growth in public construction activity, particularly highways, and we are well positioned to benefit in geographic markets where the need is greatest. On the private side, slowing single-family construction activity has outweighed continued growth in multi-family, leading to overall declines in residential demand. Nonresidential demand remains at healthy levels and continues to benefit from manufacturing and other heavy industrial projects. As always, we are focused on the things we can control, and our execution on our operating and commercial disciplines will lead to further improvement in our aggregates unit profitability and earnings growth in 2023.

Our expectations for 2023 include:

- Continued acceleration in Aggregates segment cash gross profit per ton improvement (\$7.83 in 2022)
 - Total shipments down 2% to 6% (236.3 million tons in 2022)
 - Freight-adjusted price growth of 11% to 13% (\$16.40 per ton in 2022)
 - High-single digit increase in freight-adjusted cash cost (freight-adjusted price less segment cash gross profit per ton; \$8.57 in 2022)
- Total Asphalt, Concrete and Calcium segment cash gross profit collectively in line with 2022 (\$268 million in 2022)
 - Asphalt segment improvement driven by low-single digit growth in volume and price. The price and cost inflection achieved in the second half of 2022 should lead to continued margin improvement in 2023. We expect the Asphalt segment to contribute approximately 40% to 50% of non-aggregates cash gross profit
 - Concrete segment same-store volumes (we divested approximately 2 million cubic yards in 2022) expected to decline mid-single digit due to slowing residential construction activity. Price growth should offset the higher cost for raw materials. We expect the Concrete segment to contribute approximately 50% to 60% of non-aggregates cash gross profit
- SAG expenses of \$515 million to \$530 million
- Interest expense of approximately \$195 million
- Depreciation, depletion, accretion and amortization expense of approximately \$610 million
- An effective tax rate of approximately 22%
- Net earnings attributable to Vulcan of between \$715 million and \$835 million
- Adjusted EBITDA of between \$1,725 million and \$1,875 million

Additionally, we expect to spend \$600 million to \$650 million on capital expenditures, including growth projects. We will continue to review our plans and will adjust as needed, while being thoughtful about preserving liquidity.

MEXICO UPDATE

On May 5, 2022, Mexican government officials presented employees at our Calica operations in Quintana Roo, Mexico, with arbitrary shut down orders to immediately cease underwater quarrying and extraction operations. On May 8, 2022, we filed an application in our North American Free Trade Agreement (NAFTA) arbitration seeking permission to file an ancillary claim in connection with this latest shutdown of our remaining Mexico operations. On July 11, 2022, the NAFTA arbitration tribunal granted our application. The ancillary claim will be addressed as part of the pending arbitration, and it is expected that the NAFTA arbitration tribunal will issue a decision no earlier than 2024.


POSITIONED FOR GROWTH AND VALUE CREATION

DURABLE BUSINESS MODEL TO EXTEND THE CYCLE AND SUSTAIN GROWTH

- 7% improvement in Aggregates gross profit per ton since 2020
- 10% improvement in Aggregates cash gross profit per ton since 2020
- Industry-leading commercial, logistics, operational and sourcing capabilities
- End market fundamentals support continued growth outlook
- Poised to benefit from generational investment in infrastructure that could extend and sustain cyclical growth

We have continued to deliver strong financial performance over time and through business cycles. Through our aggregates-led strategy and focus on our four strategic disciplines — commercial excellence, logistics innovation, operational excellence and strategic sourcing (as outlined in Item 1 “Business” under the “Business Strategy” heading) — we have created one of the most profitable public companies in our industry as measured by aggregates gross profit per ton.

Vulcan Aggregates Gross Profit Per Ton Growth

2022	236 M tons of aggregates sold	\$ 5.96 gross profit per ton	 4.4% Compound Annual Growth	15.6 B tons of reserves
1998	180 M tons of aggregates sold	\$ 2.11 gross profit per ton		8.3 B tons of reserves

More than an aggregates supplier, we are a business dedicated to customer service and finding creative solutions to meet our customers’ needs. Being a valued partner and trusted supplier means that we are providing the right product, with the right specifications, that is the right quality, delivered the right way — on time and safely. Our *One-Vulcan, Locally Led* approach, in which our employees work together to leverage the size and strengths of Vulcan as a whole, while running their operations with a strong entrepreneurial spirit and sense of ownership, allows us to deliver market-leading services to our customers.

Transportation costs are passed along to our customers, and because aggregates have a very high weight-to-value ratio, those costs can add up quickly when transporting aggregates long distances. Having the most extensive distribution network of any aggregates producer sets us apart. Combining our trucking, rail, barge and ocean vessel shipping logistics capabilities allows us to provide better customer solutions and create a seamless customer experience at a competitive price. As an approximation, a truck has a capacity of 20-25 tons of aggregates; a railcar has a capacity of 4-5 truckloads; a barge has a capacity of 65 truckloads; and our ocean vessels have the capacity of 2,500 truckloads.



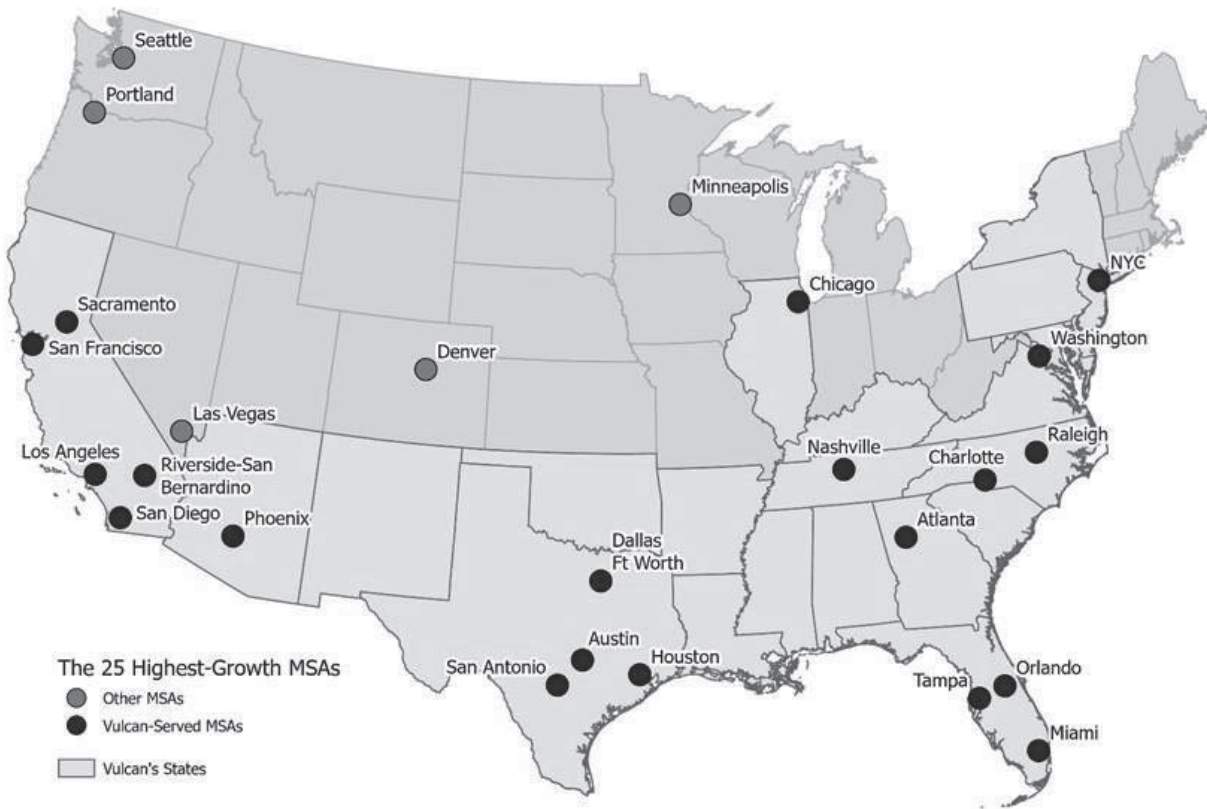
For additional information regarding our Calica operations in Mexico, see Note 12 "Commitments and Contingencies" in Item 8 "Financial Statements and Supplementary Data."

INDUSTRY LEADER WITH CLEAR COMPETITIVE ADVANTAGES

- Largest U.S. aggregates producer with best geographic diversity
- #1 or #2 aggregates position in markets accounting for approximately 90% of revenues
- Leading unit profitability margins driven by operational expertise and pricing performance
- 75% of the U.S. population growth over the next decade is projected to occur in Vulcan-served states

Over time, we have strategically and systematically built one of the most valuable aggregates franchises in the U.S. with a footprint that is impossible to replicate. Zoning and permitting regulations have made it increasingly difficult to expand existing quarries or to develop new quarries. Such regulations, while curtailing expansion, also increase the value of our reserves that were zoned and permitted decades ago.

Demand for aggregates correlates positively with changes in population growth, household formation and employment. We have a coast-to-coast footprint that serves 20 of the top 25 highest-growth metropolitan statistical areas (MSAs) and states where 75% of U.S. population growth from 2022 to 2032 is projected to occur. As state and federal spending increases, Vulcan is poised to benefit greatly from growing private and public demand for aggregates, thereby delivering significant long-term value for our shareholders.



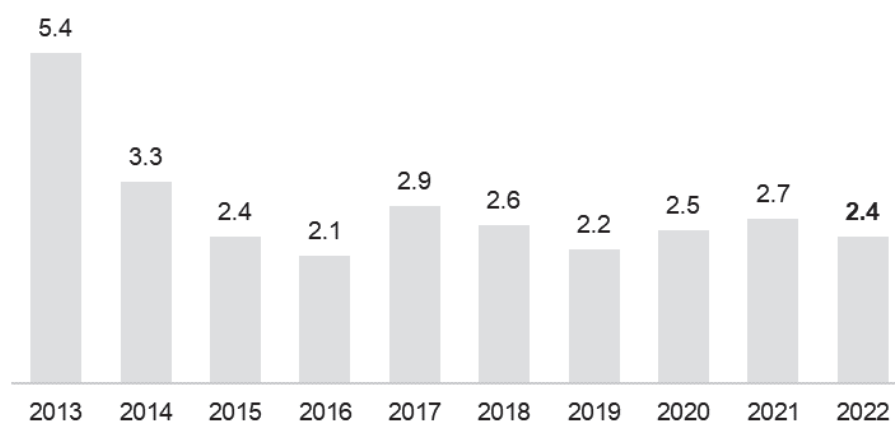
Source: Woods & Poole CEDDS 2022
Based on people added from 2022 to 2032

STRONG CASH FLOW GENERATION AND INVESTMENT-GRADE BALANCE SHEET

- Financial capacity to sustain capital reinvestment in current asset base and to fund growth
- Maintain an investment-grade credit position
- Continue to leverage current capital base to grow earnings and maximize cash generation
- Prudently pursue attractive bolt-on acquisitions and greenfields
- Focus on continuing to return value to shareholders with dividends and repurchases

Our financial position is strong as evidenced by our long-term investment-grade credit ratings (Fitch BBB/Moody's Baa2/Standard & Poor's BBB+). At December 31, 2022, our available liquidity was \$1,582.8 million, including \$161.4 million of unrestricted cash on hand, significantly higher than our liquidity needs. Our leverage ratio, as measured by total debt to Adjusted EBITDA, has improved from 5.4x at December 31, 2013 to 2.4x at December 31, 2022 (our net debt to Adjusted EBITDA at December 31, 2022 was 2.3x), within our stated leverage target of 2.0 to 2.5x. Over that same period, we also improved the structure of our debt (average maturity from 7 years to 11 years) and reduced the cost of the debt (weighted average interest rate from 7.76% to 4.78%).

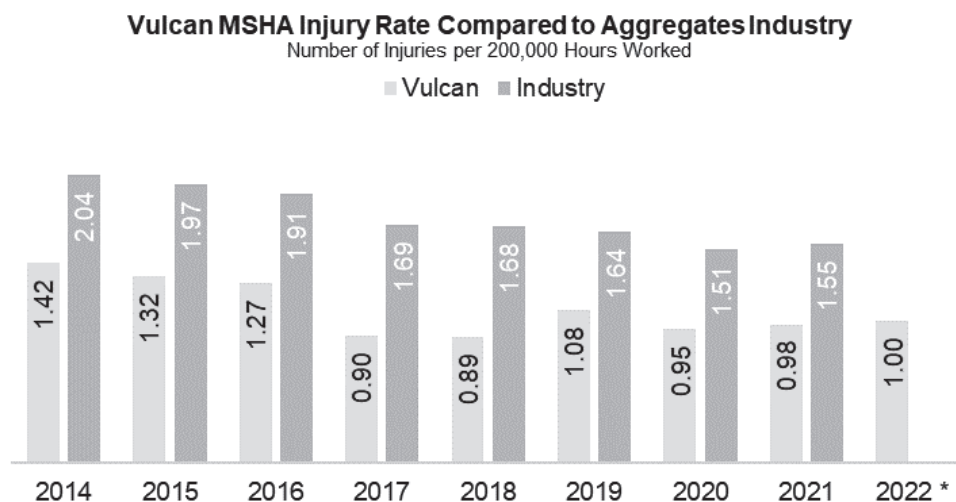
Leverage Ratio Total Debt to Adjusted EBITDA



SAFETY, HEALTH AND ENVIRONMENTAL PERFORMANCE

A strategy for sustainable, long-term value creation must include doing right by your employees, your neighbors and the environment in which you operate. Over our more than six decades as a public company, we have built a strong, resilient and vital business on this foundation of doing things the right way.

We are a leader in our industry in safety, health and environmental performance, with a safety record substantially better than the industry average. We apply the shared experiences, expertise and resources at each of our locally led sites, with an emphasis on taking care of one another. The result is a record of safety excellence that consistently outperforms the industry.



Source: Mine Safety and Health Administration (MSHA) records and Internal Vulcan Data.

* The aggregates industry MSHA injury rate for 2022 was not available as of the filing of this report.

We focus on our environmental stewardship programs with the same intensity that we bring to our health and safety initiatives resulting in 98% citation-free inspections out of all 2022 federal and state environmental inspections. As an industry leader, our aim has always been to meet — and strive to exceed — all federal, state and local environmental regulations. However, environmental sustainability means looking beyond what is required of a company by governments and regulators. We continue to make progress on reducing our carbon footprint, increasing our energy efficiency, measuring and reducing our water use, and managing our land with biodiversity in mind. It's the right thing to do for society, for our business and our stakeholders.

Our environmental stewardship commitment is designed to protect plant and animal species and habitats, as well as the air we breathe, the water we use and the planet we all share. Our environmental stewardship is reflected in our business strategy. In all parts of our company, from local operations to our corporate and regional offices to our international business and ocean-going shipping, we are focused on ensuring that our operations are efficient in ways that are economically and environmentally sustainable.

We lead community relations programs that serve our neighbors while ensuring that we grow and thrive in the communities where we operate. During 2022, we operated 40 certified wildlife habitat sites, the third largest number of sites in the nation, as certified by the Wildlife Habitat Council. In addition, we provided over 220 scholarships to students nationwide and emphasized diversity, equity and inclusion in our community outreach and contributions.

We recognize that the aggregates mining in which we engage is an interim use of the more than 240,000 acres of land in our portfolio. Our land and water assets will be converted to other valuable uses at the end of mining. Effective management throughout the life cycle of our land — from pre-mining utilization as agriculture and timber development, to post-mining development as water reservoirs or residential and commercial development — not only generates significant additional value for our shareholders but greatly benefits the communities in which we operate.

RESULTS OF OPERATIONS

Total revenues are primarily derived from our product sales of aggregates, asphalt mix and ready-mixed concrete, and include freight & delivery costs that we pass along to our customers to deliver these products. We also generate service revenues from our asphalt construction paving business and services related to our aggregates business. We present separately our discontinued operations, which consists of our former Chemicals business.

The following table highlights significant components of our consolidated operating results including EBITDA and Adjusted EBITDA.

CONSOLIDATED OPERATING RESULTS HIGHLIGHTS

<i>For the years ended December 31 in millions, except unit and per share data</i>	2022	2021	2020
Total revenues	\$ 7,315.2	\$ 5,552.2	\$ 4,856.8
Cost of revenues	5,757.5	4,178.8	3,575.3
Gross profit	\$ 1,557.7	\$ 1,373.4	\$ 1,281.5
<i>Gross profit margin</i>	21.3%	24.7%	26.4%
Selling, administrative and general expenses (SAG)	\$ 515.1	\$ 417.6	\$ 359.8
<i>SAG as a percentage of total revenues</i>	7.0%	7.5%	7.4%
Gain on sale of property, plant & equipment and businesses	\$ 10.7	\$ 120.1	\$ 4.0
Loss on impairments	\$ (67.9)	\$ (4.6)	\$ 0.0
Operating earnings	\$ 951.4	\$ 1,010.8	\$ 895.7
Interest expense	\$ 169.2	\$ 149.3	\$ 136.0
Earnings from continuing operations before income taxes	\$ 788.1	\$ 873.8	\$ 743.8
Income tax expense	\$ 193.0	\$ 200.1	\$ 155.8
<i>Effective tax rate from continuing operations</i>	24.5%	22.9%	20.9%
Earnings from continuing operations	\$ 595.1	\$ 673.7	\$ 588.0
Loss on discontinued operations, net of income taxes	(18.6)	(3.3)	(3.5)
Loss attributable to noncontrolling interest	(0.9)	0.4	0.0
Net earnings attributable to Vulcan	\$ 575.6	\$ 670.8	\$ 584.5
Diluted earnings (loss) per share attributable to Vulcan			
Continuing operations	\$ 4.45	\$ 5.05	\$ 4.41
Discontinued operations	(0.14)	(0.03)	(0.02)
Diluted net earnings per share attributable to Vulcan	\$ 4.31	\$ 5.02	\$ 4.39
EBITDA ¹	\$ 1,543.1	\$ 1,484.9	\$ 1,275.0
Adjusted EBITDA ¹	\$ 1,625.6	\$ 1,451.3	\$ 1,323.5
Average Sales Price and Unit Shipments			
Aggregates			
Tons (thousands)	236,345	222,863	208,295
Freight-adjusted sales price	\$ 16.40	\$ 14.87	\$ 14.44
Asphalt Mix			
Tons (thousands)	12,156	11,392	11,835
Average sales price	\$ 71.29	\$ 58.83	\$ 57.97
Ready-mixed concrete			
Cubic yards (thousands)	10,534	5,616	2,951
Average sales price	\$ 150.82	\$ 135.79	\$ 128.93
Calcium			
Tons (thousands)	228	246	282
Average sales price	\$ 34.27	\$ 28.16	\$ 27.32

¹ Non-GAAP measures are defined and reconciled within this Item 7 under the caption Reconciliation of Non-GAAP Financial Measures.

Net earnings attributable to Vulcan for 2022 were \$575.6 million (\$4.31 per diluted share) compared to \$670.8 million (\$5.02 per diluted share) in 2021. Each year's results were impacted by discrete items, as follows:

Net earnings attributable to Vulcan for 2022 include:

- pretax net gain of \$6.1 million related to the sale of excess real estate and businesses
- pretax charges of \$67.8 million for goodwill and long-lived asset impairments related to the sale of businesses above
- pretax charges of \$3.1 million for divested operations
- pretax charges of \$10.6 million associated with non-routine business development
- pretax charges of \$7.2 million for managerial restructuring
- \$14.5 million of tax charges related to a Calica net operating loss (NOL) carryforward valuation allowance

Net earnings attributable to Vulcan for 2021 include:

- pretax net gain of \$114.7 million related to the sale of a reclaimed quarry in Southern California
- pretax charges of \$1.5 million for divested operations
- pretax charges of \$4.6 million associated with long-lived asset impairments
- pretax charges of \$34.4 million associated with non-routine business development
- pretax charges of \$15.0 million for managerial restructuring (related to U.S. Concrete)
- \$13.7 million of tax charges related to an increase in the Alabama NOL carryforward valuation allowance
- pretax charges of \$13.4 million for COVID-19 pandemic direct incremental costs
- pretax charges of \$12.1 million for pension settlement (see Note 10 "Benefit Plans" in Item 8 "Financial Statements and Supplementary Data")
- pretax interest charges of \$9.4 million related to financing the U.S. Concrete acquisition

Adjusted for these discrete items, earnings attributable to Vulcan from continuing operations (Adjusted Diluted EPS) was \$5.11 per diluted share for 2022 compared to \$5.04 per diluted share for 2021.

EARNINGS FROM CONTINUING OPERATIONS BEFORE INCOME TAXES

Year-over-year changes in earnings from continuing operations before income taxes are summarized below:

<i>in millions</i>	2020	\$	743.8	2021	\$	873.8
Higher aggregates gross profit			136.5			112.8
Higher (lower) asphalt gross profit			(54.0)			36.1
Higher concrete gross profit			10.1			35.0
Higher (lower) calcium gross profit			(0.7)			0.4
Higher selling, administrative and general expenses			(57.8)			(97.5)
Higher (lower) gain on sale of property, plant & equipment and businesses			116.1			(109.4)
Higher impairment charges			(4.6)			(63.3)
Higher interest expense			(13.3)			(19.9)
Pension settlement charge			(12.1)			0.0
U.S. Concrete acquisition related expenses			(22.0)			0.0
All other			31.8			20.1
			2021			\$ 788.1

OPERATING RESULTS BY SEGMENT

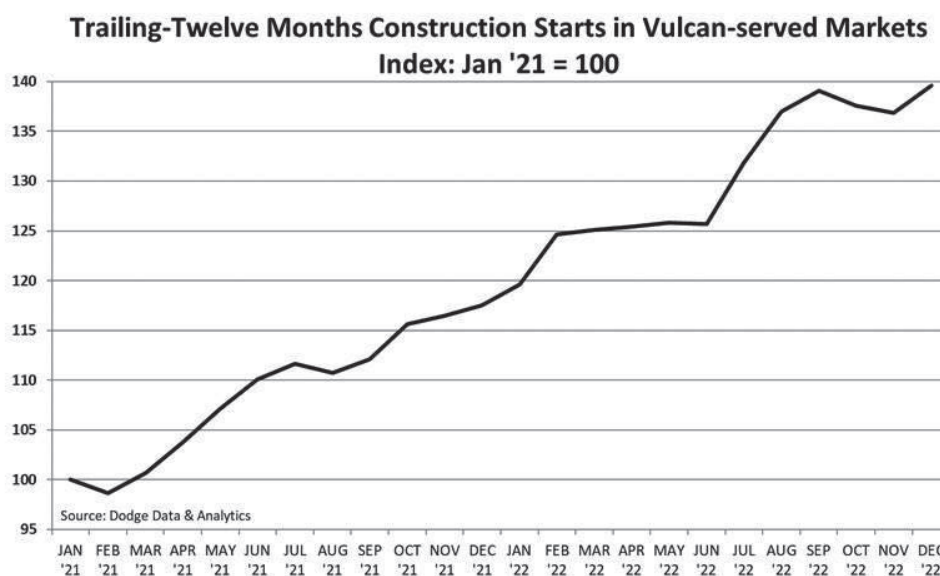
We present our results of operations by segment at the gross profit level. We have four operating (and reportable) segments organized around our principal product lines: (1) Aggregates, (2) Asphalt, (3) Concrete and (4) Calcium. Management reviews earnings for our reporting segments principally at the gross profit level.

1. AGGREGATES

Our year-over-year aggregates shipments:

- increased 6% in 2022
- increased 7% in 2021
- decreased 3% in 2020

Total aggregates shipments increased 6%, reflecting shipment contribution from acquisitions and healthy construction activity levels.



Our year-over-year freight-adjusted selling price¹ for aggregates:

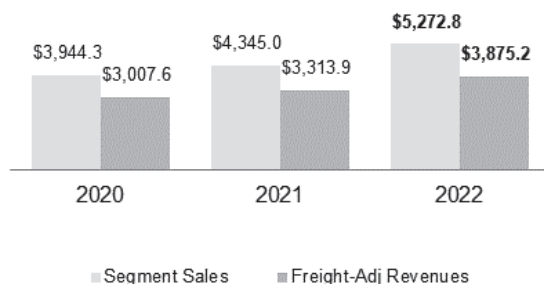
- increased 10.3% in 2022
- increased 3.0% in 2021
- increased 3.2% in 2020

¹ We routinely arrange the delivery of our aggregates to the customer. Additionally, we incur freight costs to move aggregates from the production site to remote distribution sites. These costs are passed on to our customers in the aggregates price. We remove these pass-through freight & delivery revenues (and any other aggregates-derived revenues, such as landfill tipping fees) from the freight-adjusted selling price for aggregates. See the Reconciliation of Non-GAAP Financial Measures within this Item 7 for a reconciliation of freight-adjusted revenues.

The rate of pricing growth improved sequentially each quarter this year as a result of improvement in demand visibility. Freight-adjusted pricing increased 10.3% with growth widespread across our footprint.

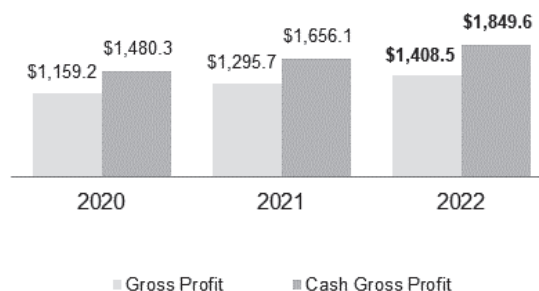
AGGREGATES SEGMENT SALES AND FREIGHT-ADJUSTED REVENUES

in millions



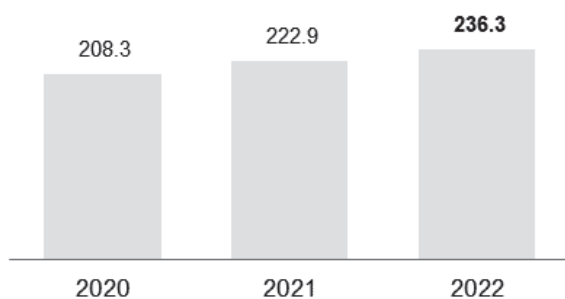
AGGREGATES GROSS PROFIT AND CASH GROSS PROFIT

in millions



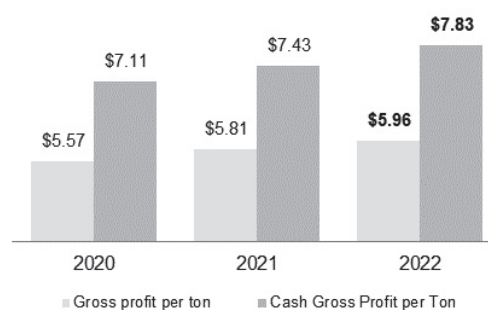
AGGREGATES UNIT SHIPMENTS

in millions



AGGREGATES GROSS PROFIT AND CASH GROSS PROFIT

per ton



Aggregates segment gross profit increased 9% to \$1,408.5 million, or \$5.96 per ton. Cash gross profit per ton improved 5% from the prior year to \$7.83. The earnings improvement was widespread across our footprint and resulted from both volume and price growth, as well as effective cost management.

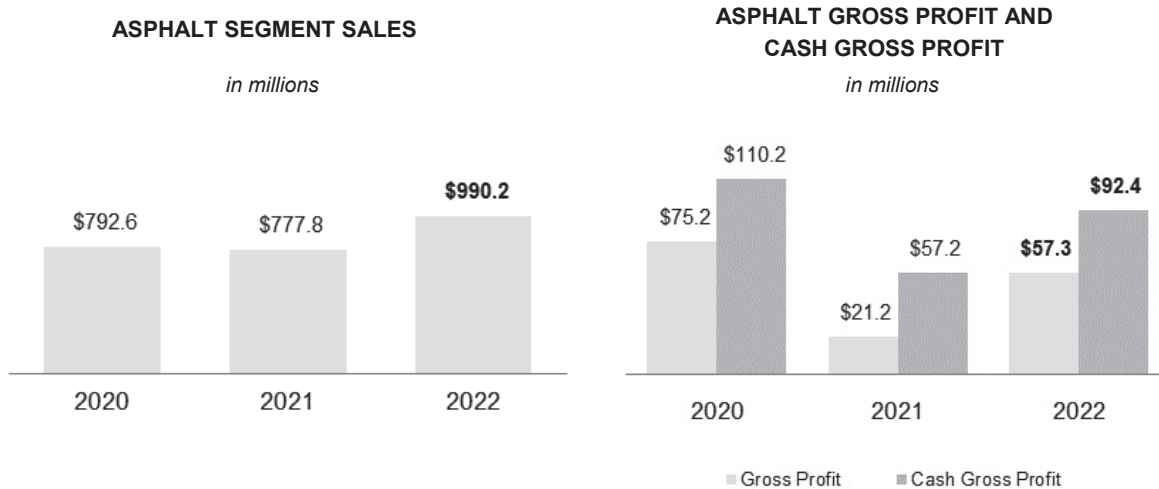
Double-digit price growth and solid operational execution helped offset a \$104.4 million unfavorable impact from significantly higher diesel fuel costs and continued energy cost headwinds and inflationary pressures for many parts and supplies. Freight-adjusted unit cash cost of sales increased 15%, or \$1.13 per ton. Excluding the impact of higher diesel fuel costs, freight-adjusted unit cash cost of sales increased 9%. Shipments were negatively impacted by the absence of tons available from our Mexico operations which were unexpectedly and arbitrarily shut down by the Mexican government in May of 2022 (for additional information, see Note 12 "Commitments and Contingencies" in Item 8 "Financial Statements and Supplementary Data"). Pricing momentum and a focus on our operating disciplines will help us manage costs and improve efficiencies in 2023.

2. ASPHALT

Our year-over-year asphalt mix shipments:

- increased 7% in 2022
- decreased 4% in 2021
- decreased 7% in 2020

Asphalt segment gross profit was \$57.3 million, an increase of \$36.1 million driven by robust pricing gains partially offset by a 36% increase in unit costs for liquid asphalt. Asphalt segment cash gross profit was \$92.4 million, a 62% increase from the prior year. Asphalt pricing increased 21%, or \$12.46 per ton. Volume improved 7% for the year, benefiting from solid growth in Arizona and California, our two largest asphalt markets, as well as growth from acquisitions completed during 2022.



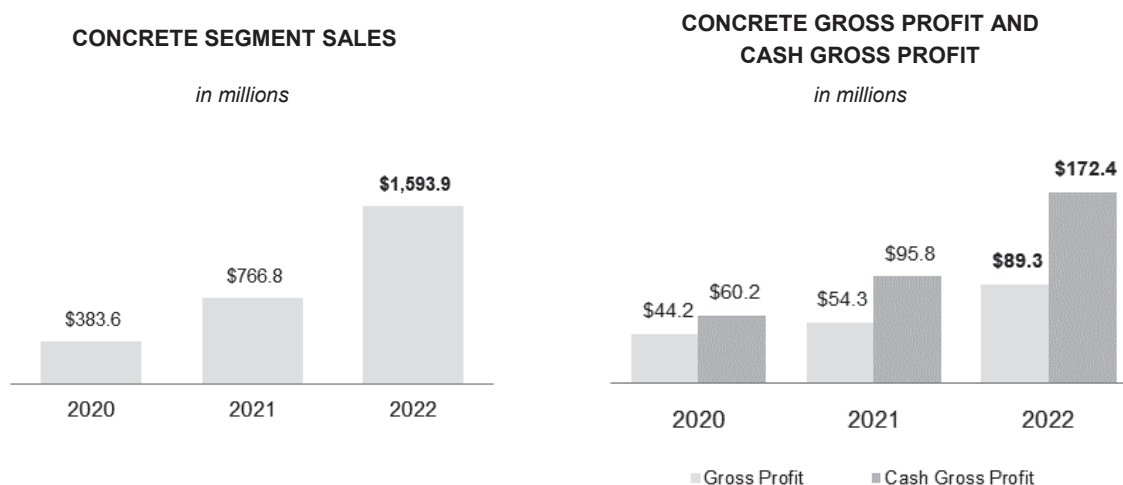
3. CONCRETE

Our year-over-year ready-mixed concrete shipments:

- increased 88% in 2022 ¹
- increased 90% in 2021 ¹
- decreased 5% in 2020

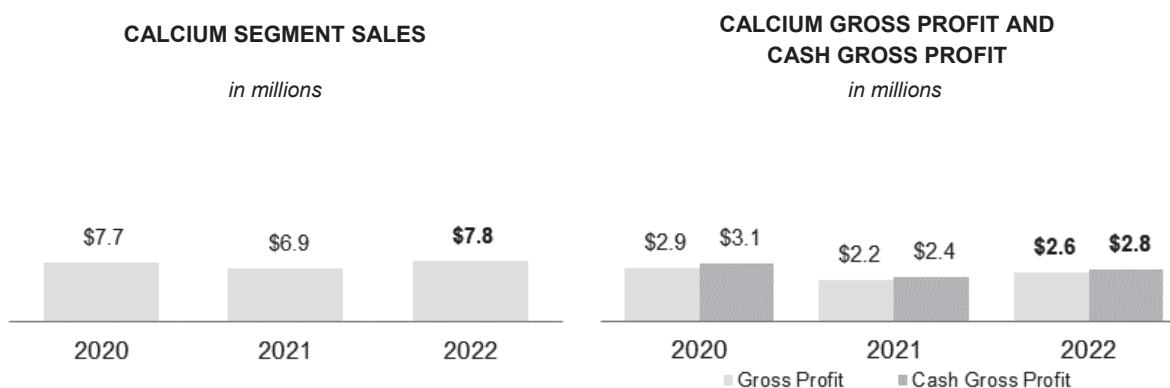
¹ Same-store shipments decreased 7% in 2021 and were essentially flat in 2022.

Concrete segment gross profit increased \$35.0 million to \$89.3 million, benefiting mostly from the earnings contribution of acquisitions. Cash gross profit increased \$76.6 million to \$172.4 million. Average selling prices increased 11%, partially offsetting higher raw materials, diesel and labor costs.



4. CALCIUM

Calcium segment gross profit increased \$0.4 million from 2021 to \$2.6 million.



In total, the 2022 gross profit contribution from our three non-aggregates (Asphalt, Concrete and Calcium) segments was \$149.2 million, a \$71.5 million or 92% increase from 2021.

SELLING, ADMINISTRATIVE AND GENERAL (SAG) EXPENSES

in millions



As a percentage of total revenues, SAG expense was:

- 7.0% in 2022 — decreased 0.5 percentage points (50 basis points)
- 7.5% in 2021 — increased 0.10 percentage points (10 basis points)
- 7.4% in 2020 — decreased 0.10 percentage points (10 basis points)

Our comparative total company employment levels at year-end:

- increased 6% in 2022
- increased 26% in 2021
- decreased 2% in 2020

The 2021 increase in our employment level was primarily the result of our August 2021 acquisition of U.S. Concrete (see Note 19 “Acquisitions and Divestitures” in Item 8 “Financial Statements and Supplementary Data”). As noted above, 2022 SAG expenses were \$515.1 million or 7.0% as a percentage of total revenues, down from 7.5% in 2021. The current year includes a full year of overhead expenses associated with U.S. Concrete whereas the prior year only includes four months. Additionally, increased routine business development activities, more normalized travel expenses and travel related to U.S. Concrete integration activities contributed to the \$97.5 million increase in SAG expenses. We remain focused on further leveraging our overhead cost structure.

GAIN ON SALE OF PROPERTY, PLANT & EQUIPMENT AND BUSINESSES

in millions



The 2022 gain on sale of property, plant & equipment and businesses of \$10.7 million includes a pretax gain of \$23.5 million from the sale of excess real estate in Southern California partially offset by a pretax loss of \$17.4 million related to the sale of our concrete operations in New Jersey, New York and Pennsylvania. The 2021 gain on sale of property, plant & equipment and businesses of \$120.1 million includes a pretax net gain of \$114.7 from the sale of Southern California real estate (previously mined land that we reclaimed for commercial and retail development). We remain focused on our efforts to maximize the value of our portfolio of quarry operations as they move through their life-cycle of land management. For additional details, see Note 19 “Acquisitions and Divestitures” in Item 8 “Financial Statements and Supplementary Data.”

LOSS ON IMPAIRMENTS

Loss on impairments was \$67.9 million in 2022 which includes a \$50.9 million goodwill impairment charge and a \$16.9 million long-lived asset impairment charge related to the New Jersey, New York and Pennsylvania concrete operations that were sold during the fourth quarter. Loss on impairments was \$4.6 million in 2021.

See Note 18 “Goodwill and Intangible Assets” and Note 19 “Acquisitions and Divestitures” in Item 8 “Financial Statements and Supplementary Data” for additional discussion.

OTHER OPERATING EXPENSE, NET

Other operating expense is composed primarily of idle facilities expense, environmental remediation costs and gain (loss) on settlement of AROs. Total other operating expense and significant discrete items included in the total were:

- \$34.0 million in 2022 — includes discrete items as follows:
 - \$3.1 million of charges associated with divested operations
 - \$10.6 million of non-routine business development charges (excludes items included in cost of revenues)
 - \$7.2 million of managerial restructuring charges (related to acquisitions)
- \$60.5 million in 2021 — includes discrete items as follows:
 - \$1.5 million of charges associated with divested operations
 - \$23.7 million of non-routine business development charges (excludes items included in cost of revenues)
 - \$13.4 million of charges related to COVID-19 pandemic direct incremental costs
 - \$15.0 million of managerial restructuring charges (related to U.S. Concrete)

OTHER NONOPERATING INCOME (EXPENSE), NET

Other nonoperating income was \$5.1 million in 2022 and \$10.7 million in 2021, composed primarily of pension and postretirement benefit costs (excluding service costs), foreign currency transaction gains/losses, Rabbi Trust gains/losses and net earnings/losses of nonconsolidated equity method investments. During 2021, we incurred \$12.1 million of non-cash pension settlement charges — this partial settlement will benefit future expense and funding requirements (see Note 10 “Benefit Plans” in Item 8 “Financial Statements and Supplementary Data”).

INTEREST EXPENSE

in millions



Interest expense was \$169.2 million in 2022 compared to \$149.3 million in 2021. This increase was primarily due to a higher debt level resulting from financing the August 2021 acquisition of U.S. Concrete. See Note 6 “Debt” in Item 8 “Financial Statements and Supplementary Data” for additional discussion.

INCOME TAXES

Our income tax expense from continuing operations for the years ended December 31 is shown below:

<i>dollars in millions</i>	2022	2021	2020
Earnings from continuing operations before income taxes	\$ 788.1	\$ 873.8	\$ 743.8
Income tax expense	\$ 193.0	\$ 200.1	\$ 155.8
Effective tax rate	24.5%	22.9%	20.9%

The \$7.1 million decrease in our 2022 income tax expense was primarily related to a decrease in earnings from continuing operations partially offset by the tax impact from the impairment of non-tax deductible goodwill. The \$44.3 million increase in our 2021 income tax expense was primarily due to an increase in earnings from continuing operations and the increase of our Alabama NOL valuation allowance.

In May 2022, Mexican government officials unexpectedly and arbitrarily shut down our Calica operations in Mexico. The impact of the shutdown, combined with recent increased costs (primarily due to underwater mining) has resulted in substantial losses. In 2022, Calica generated a net operating loss (NOL) deferred tax asset of \$14.5 million. Based on the weight of all available positive and negative evidence, we have concluded that it is more likely than not that Calica will be unable to realize the NOL deferred tax asset during the ten-year carryforward period. Therefore, we recorded a valuation allowance of \$14.5 million for 2022. Should the Mexican government lift the shutdown and/or we are successful in our NAFTA claim, we will reevaluate the need for a valuation allowance against the NOL deferred tax asset.

In February 2021, the Alabama Business Competitiveness Act (ABC Act) was signed into law. The ABC Act contained a provision requiring most taxpayers to change from a three-factor, double-weighted sales method to a single-sales factor method to apportion income to Alabama. This provision had the effect of significantly reducing our apportionment of income to Alabama, thereby further inhibiting our ability to utilize our Alabama NOL carryforward. As a result, in 2021, we increased the valuation allowance by \$13.7 million. No other material tax impacts resulted from the enactment of this Act.

See Note 9 "Income Taxes" in Item 8 "Financial Statements and Supplementary Data."

DISCONTINUED OPERATIONS

Pretax loss from discontinued operations were:

- \$(25.2) million in 2022
- \$(4.5) million in 2021
- \$(4.7) million in 2020

Pretax loss from discontinued operations for 2022 and 2021 resulted primarily from general and product liability costs, including legal defense costs and environmental remediation costs associated with our former Chemicals business. In addition, 2022 includes a \$15.3 million charge for a litigation matter (see Note 12 "Commitments and Contingencies" in Item 8 "Financial Statements and Supplementary Data"). For additional information about discontinued operations, see Note 1 "Summary of Significant Accounting Policies" in Item 8 "Financial Statements and Supplementary Data."

KNOWN TRENDS OR UNCERTAINTIES

As described in the Executive Summary, inflationary pressures and labor constraints were trends impacting our operations in 2022. Although inflationary pressures can create short- to medium-term headwinds, the combination of inflation and improving visibility of demand has created and may continue to create a favorable environment for price increases. Additionally, labor constraints (especially truck drivers) have caused delays and inefficiencies in our operations as well as those of our customers. If labor constraints continue and demand remains strong, our operations may proceed at a slower pace, which may effectively extend the recovery while allowing us the opportunity to compound price, control costs and grow earnings.

Further, the Mexican government has taken actions adverse to our property and operations in that country. On May 5, 2022, Mexican government officials presented employees at our Calica operations in Quintana Roo, Mexico with arbitrary shutdown orders to immediately cease underwater quarrying and extraction operations. On May 13, 2022, the Mexican government suspended the three-year customs permit granted in March 2022 to Calica and began a proceeding that could result in the revocation of that permit. We strongly believe that the actions taken by Mexico are arbitrary and illegal, and we intend to vigorously pursue all lawful avenues available to us in order to protect our rights, under both Mexican and international law. For additional information regarding our Calica operations, see Note 12 “Commitments and Contingencies” in Item 8 “Financial Statements and Supplementary Data.”

RECONCILIATION OF NON-GAAP FINANCIAL MEASURES

AGGREGATES SEGMENT FREIGHT-ADJUSTED REVENUES

Aggregates segment freight-adjusted revenues is not a Generally Accepted Accounting Principle (GAAP) measure and should not be considered as an alternative to metrics defined by GAAP. We present this measure as it is consistent with the basis by which we review our operating results. We believe that this presentation is consistent with our competitors and meaningful to our investors as it excludes revenues associated with freight & delivery, which are pass-through activities. It also excludes other revenues related to services, such as landfill tipping fees, that are derived from our aggregates business. Additionally, we use this metric as the basis for calculating the average sales price of our aggregates products. Reconciliation of this metric to its nearest GAAP measure is presented below:

<i>in millions, except per ton data</i>	2022	2021	2020
Aggregates segment			
Segment sales	\$ 5,272.8	\$ 4,345.0	\$ 3,944.3
Less			
Freight & delivery revenues ¹	1,291.3	952.1	877.0
Other revenues	106.3	79.0	59.7
Freight-adjusted revenues	\$ 3,875.2	\$ 3,313.9	\$ 3,007.6
Unit shipments - tons	236.3	222.9	208.3
Freight-adjusted sales price	\$ 16.40	\$ 14.87	\$ 14.44

¹ At the segment level, freight & delivery revenues include intersegment freight & delivery (which are eliminated at the consolidated level) and freight to remote distribution sites.

CASH GROSS PROFIT

GAAP does not define “cash gross profit,” and it should not be considered as an alternative to earnings measures defined by GAAP. We and the investment community use this metric to assess the operating performance of our business. Additionally, we present this metric as we believe that it closely correlates to long-term shareholder value. We do not use this metric as a measure to allocate resources. Cash gross profit adds back noncash charges for depreciation, depletion, accretion and amortization to gross profit. Segment cash gross profit per unit is computed by dividing segment cash gross profit by units shipped. Segment cash cost of sales per unit is computed by subtracting segment cash gross profit per unit from segment freight-adjusted sales price. Reconciliation of these metrics to their nearest GAAP measures are presented below:

<i>in millions, except per ton data</i>	2022	2021	2020
Aggregates segment			
Gross profit	\$ 1,408.5	\$ 1,295.7	\$ 1,159.2
Depreciation, depletion, accretion and amortization	441.1	360.4	321.1
Aggregates segment cash gross profit	\$ 1,849.6	\$ 1,656.1	\$ 1,480.3
Unit shipments - tons	236.3	222.9	208.3
Aggregates segment gross profit per ton	\$ 5.96	\$ 5.81	\$ 5.57
Aggregates segment cash gross profit per ton	\$ 7.83	\$ 7.43	\$ 7.11
Aggregates segment freight-adjusted sales price	\$ 16.40	\$ 14.87	\$ 14.44
Aggregates segment freight-adjusted cash cost of sales per ton	\$ 8.57	\$ 7.44	\$ 7.33
Asphalt segment			
Gross profit	\$ 57.3	\$ 21.2	\$ 75.2
Depreciation, depletion, accretion and amortization	35.1	36.0	35.0
Asphalt segment cash gross profit	\$ 92.4	\$ 57.2	\$ 110.2
Unit shipments - tons	12.2	11.4	11.8
Asphalt segment gross profit per ton	\$ 4.71	\$ 1.86	\$ 6.36
Asphalt segment cash gross profit per ton	\$ 7.60	\$ 5.02	\$ 9.31
Asphalt segment average sales price	\$ 71.29	\$ 58.83	\$ 57.97
Asphalt segment cash cost of sales per ton	\$ 63.69	\$ 53.81	\$ 48.66
Concrete segment			
Gross profit	\$ 89.3	\$ 54.3	\$ 44.2
Depreciation, depletion, accretion and amortization	83.1	41.5	16.0
Concrete segment cash gross profit	\$ 172.4	\$ 95.8	\$ 60.2
Unit shipments - cubic yards	10.5	5.6	3.0
Concrete segment gross profit per cubic yard	\$ 8.48	\$ 9.67	\$ 14.96
Concrete segment cash gross profit per cubic yard	\$ 16.36	\$ 17.05	\$ 20.39
Concrete segment average sales price	\$ 150.82	\$ 135.79	\$ 128.93
Concrete segment cash cost of sales per cubic yard	\$ 134.46	\$ 118.74	\$ 108.54
Calcium segment			
Gross profit	\$ 2.6	\$ 2.2	\$ 2.9
Depreciation, depletion, accretion and amortization	0.2	0.2	0.2
Calcium segment cash gross profit	\$ 2.8	\$ 2.4	\$ 3.1
Unit shipments - tons	0.2	0.2	0.3
Calcium segment gross profit per ton	\$ 11.68	\$ 9.04	\$ 10.32
Calcium segment cash gross profit per ton	\$ 12.37	\$ 9.66	\$ 10.99
Calcium segment average sales price	\$ 34.27	\$ 28.16	\$ 27.32
Calcium segment cash cost of sales per ton	\$ 21.90	\$ 18.50	\$ 16.33

EBITDA AND ADJUSTED EBITDA

GAAP does not define “Earnings Before Interest, Taxes, Depreciation and Amortization” (EBITDA), and it should not be considered as an alternative to earnings measures defined by GAAP. We use this metric to assess the operating performance of our business and as a basis for strategic planning and forecasting as we believe that it closely correlates to long-term shareholder value. We do not use this metric as a measure to allocate resources. We adjust EBITDA for certain items to provide a more consistent comparison of earnings performance from period to period. Reconciliation of this metric to its nearest GAAP measure is presented below (numbers may not foot due to rounding):

<i>in millions</i>	2022	2021	2020
Net earnings attributable to Vulcan	\$ 575.6	\$ 670.8	\$ 584.5
Income tax expense	193.0	200.1	155.8
Interest expense, net of interest income	168.4	147.7	134.4
Loss on discontinued operations, net of tax	18.6	3.3	3.5
Depreciation, depletion, accretion and amortization	587.5	463.0	396.8
EBITDA	\$ 1,543.1	\$ 1,484.9	\$ 1,275.0
Gain on sale of real estate and businesses, net	\$ (6.1)	\$ (114.7)	\$ 0.0
Loss on impairments	67.8	4.6	0.0
Charges associated with divested operations	3.1	1.5	6.9
Business development ¹	10.6	34.4	7.3
COVID-19 direct incremental costs ²	0.0	13.4	10.2
Pension settlement charge	0.0	12.1	22.7
Restructuring charges	7.2	15.0	1.3
Adjusted EBITDA	\$ 1,625.6	\$ 1,451.3	\$ 1,323.5

¹ Represents non-routine charges or gains associated with acquisitions and dispositions. Costs in 2021 include U.S. Concrete acquisition related expenses of \$22.0 million and the cost impact of purchase accounting inventory valuations of \$10.7 million.

² The 2021 costs include \$5.1 million related to our COVID-19 vaccination incentive program.

ADJUSTED DILUTED EPS ATTRIBUTABLE TO VULCAN FROM CONTINUING OPERATIONS

Similar to our presentation of Adjusted EBITDA, we present Adjusted diluted earnings per share (EPS) attributable to Vulcan from continuing operations to provide a more consistent comparison of earnings performance from period to period. This metric is not defined by GAAP and should not be considered as an alternative to earnings measures defined by GAAP. Reconciliation of this metric to its nearest GAAP measure is presented below:

	2022	2021	2020
Diluted Earnings Per Share			
Net earnings attributable to Vulcan	\$ 4.31	\$ 5.02	\$ 4.39
Less: Discontinued operations	(0.14)	(0.03)	(0.02)
Diluted EPS attributable to Vulcan from continuing operations	\$ 4.45	\$ 5.05	\$ 4.41
Items included in Adjusted EBITDA above, net of tax	0.55	(0.16)	0.27
Acquisition financing interest costs	0.00	0.05	0.00
NOL carryforward valuation allowance	0.11	0.10	0.00
Adjusted diluted EPS attributable to Vulcan from continuing operations	\$ 5.11	\$ 5.04	\$ 4.68

NET DEBT TO ADJUSTED EBITDA

Net debt to Adjusted EBITDA is not a GAAP measure and should not be considered as an alternative to metrics defined by GAAP. We, the investment community and credit rating agencies use this metric to assess our leverage. Net debt subtracts cash and cash equivalents and restricted cash from total debt. Reconciliation to its nearest GAAP measure is presented below:

<i>in millions</i>	2022	2021
Debt		
Current maturities of long-term debt	\$ 0.5	\$ 5.2
Short-term debt	100.0	0.0
Long-term debt	3,875.2	3,874.8
Total debt	\$ 3,975.7	\$ 3,880.0
Less: Cash and cash equivalents and restricted cash	161.5	241.5
Net debt	\$ 3,814.2	\$ 3,638.5
Adjusted EBITDA	\$ 1,625.6	\$ 1,451.3
Total debt to Adjusted EBITDA	2.4x	2.7x
Net debt to Adjusted EBITDA	2.3x	2.5x

RETURN ON INVESTED CAPITAL

We define "Return on Invested Capital" (ROIC) as Adjusted EBITDA for the trailing-twelve months divided by average invested capital (as illustrated below) during the trailing 5-quarters. Our calculation of ROIC is considered a non-GAAP financial measure because we calculate ROIC using the non-GAAP metric EBITDA. We believe that our ROIC metric is meaningful because it helps investors assess how effectively we are deploying our assets. Although ROIC is a standard financial metric, numerous methods exist for calculating a company's ROIC. As a result, the method we use to calculate our ROIC may differ from the methods used by other companies. This metric is not defined by GAAP and should not be considered as an alternative to earnings measures defined by GAAP. Reconciliation of this metric to its nearest GAAP measure is presented below (numbers may not foot due to rounding):

<i>dollars in millions</i>	2022	2021	2020
Adjusted EBITDA	\$ 1,625.6	\$ 1,451.3	\$ 1,323.5
Average invested capital			
Property, plant & equipment, net	\$ 5,810.4	\$ 4,849.7	\$ 4,374.0
Goodwill	3,708.5	3,377.6	3,170.1
Other intangible assets	1,737.5	1,382.0	1,104.0
Fixed and intangible assets	\$ 11,256.4	\$ 9,609.3	\$ 8,648.1
Current assets	\$ 1,898.8	\$ 1,977.1	\$ 1,845.7
Less: Cash and cash equivalents	161.3	687.1	698.9
Less: Current tax	47.2	32.9	18.5
Adjusted current assets	1,690.3	1,257.1	1,128.3
Current liabilities	1,002.1	771.8	833.6
Less: Current maturities of long-term debt	2.1	112.8	305.0
Less: Short-term debt	137.6	0.0	0.0
Adjusted current liabilities	862.4	659.0	528.6
Adjusted net working capital	\$ 827.9	\$ 598.1	\$ 599.7
Average invested capital	\$ 12,084.3	\$ 10,207.4	\$ 9,247.8
Return on invested capital	13.5%	14.2%	14.3%

2023 PROJECTED EBITDA

The following reconciliation to the mid-point of the range of 2023 Projected EBITDA excludes adjustments (as noted in Adjusted EBITDA above) as they are difficult to forecast (timing or amount). Due to the difficulty of forecasting such adjustments, we are unable to estimate their significance. This metric is not defined by GAAP and should not be considered as an alternative to earnings measures defined by GAAP. Reconciliation of this metric to its nearest GAAP measure is presented below:

<i>in millions</i>	2023 Projected ¹
	Mid-point
Net earnings attributable to Vulcan	\$ 775
Income tax expense	220
Interest expense, net of interest income	195
Depreciation, depletion, accretion and amortization	610
Projected EBITDA	\$ 1,800

¹ See the *Market Developments and Outlook* section (earlier within this Item 7) for the assumptions used to build this projection.

Because GAAP financial measures on a forward-looking basis are not accessible, and reconciling information is not available without unreasonable effort, we have not provided reconciliations for forward-looking non-GAAP measures, other than the reconciliation of Projected EBITDA as noted above. For the same reasons, we are unable to address the probable significance of the unavailable information, which could be material to future results.

LIQUIDITY AND FINANCIAL RESOURCES

Our primary sources of liquidity are cash provided by our operating activities, a substantial, committed bank line of credit and our commercial paper program. Additional sources of capital include access to the capital markets, the sale of surplus real estate and dispositions of nonstrategic operating assets. We believe these financial resources are sufficient to fund our business requirements for 2023, including:

- contractual obligations
- capital expenditures
- debt service obligations
- dividend payments
- potential acquisitions
- potential share repurchases

During 2023, we expect to spend between \$600 million and \$650 million on capital expenditures, including growth projects. Excluding future cash requirements for capital expenditures, our future contractual payments as of December 31, 2022 are summarized in the table below:

in millions	Note Reference	Payments Due by Year			
		2023	2024-2027	Thereafter	Total
Contractual Obligations					
Bank line of credit					
Principal payments	Note 6	\$ 100.0	\$ 0.0	\$ 0.0	\$ 100.0
Interest payments and fees ¹	Note 6	3.1	9.7	0.0	12.8
Commercial paper					
Principal payments	Note 6	0.0	550.0	0.0	550.0
Interest payments	Note 6	29.2	83.6	0.0	112.8
Term debt					
Principal payments	Note 6	0.5	1,351.4	2,040.1	3,392.0
Interest payments	Note 6	154.9	508.2	1,216.4	1,879.5
Operating leases ²	Note 7	65.3	185.8	211.5	462.6
Finance leases ²	Note 7	22.9	34.9	0.0	57.8
Mineral royalties	Note 12	25.9	62.7	150.1	238.7
Unconditional purchase obligations					
Capital	Note 12	33.4	0.0	0.0	33.4
Noncapital ³	Note 12	36.3	118.8	44.5	199.6
Benefit plans ⁴	Note 10	7.9	37.5	58.4	103.8
Total contractual obligations ⁵		\$ 479.4	\$ 2,942.6	\$ 3,721.0	\$ 7,143.0

¹ Includes fees for unused borrowing capacity and fees for standby letters of credit. The figures for all years assume that the amount of unused borrowing capacity and the amount of standby letters of credit do not change from December 31, 2022, and borrowing costs reflect a rising SOFR.

² Excludes lease renewal options which are included in the table labeled Maturity of Lease Liabilities in Note 7 "Leases" in Item 8 "Financial Statements and Supplementary Data."

³ Noncapital unconditional purchase obligations relate primarily to transportation and electricity contracts.

⁴ Payments in "Thereafter" column for benefit plans are for the years 2028-2032. The future contributions are based on current economic conditions and may vary based on future interest rates, asset performance, participant longevity and other plan experience.

⁵ Excludes discounted asset retirement obligations in the amount of \$311.3 million at December 31, 2022, the majority of which have an estimated settlement date beyond 2027 (see Note 17 "Asset Retirement Obligations" in Item 8 "Financial Statements and Supplementary Data").

As of December 31, 2022, we were contingently liable for \$786.5 million within 470 surety bonds underwritten by various surety companies. These bonds guarantee our performance and are required primarily by states and municipalities and their related agencies. The top five in amount totaled \$206.0 million (26%) and were for certain construction contracts and reclamation obligations. We have agreed to indemnify the underwriting companies against any exposure under the surety bonds. No material claims have been made against our surety bonds.

We have no material off-balance sheet arrangements, such as financing or unconsolidated variable interest entities.

Our balanced approach to capital deployment remains unchanged. We intend to balance reinvestment in our business, growth through acquisitions and return of capital to shareholders, while sustaining financial strength and flexibility.

We actively manage our capital structure and resources in order to balance the cost of capital and the risk of financial stress. We seek to meet these objectives by adhering to the following principles:

- maintain substantial bank line of credit borrowing capacity
- proactively manage our debt maturity schedule such that repayment/refinancing risk in any single year is low
- maintain an appropriate balance of fixed-rate and floating-rate debt
- minimize financial and other covenants that limit our operating and financial flexibility

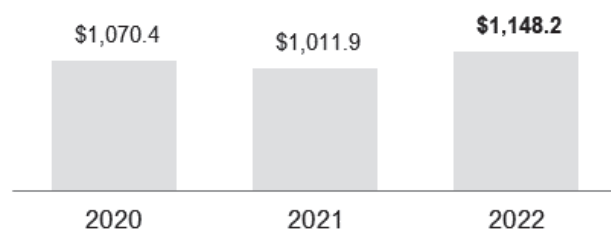
We will continue to assess our liquidity sources and needs in order to take appropriate actions to meet our objectives.

CASH

Included in our December 31, 2022 cash and cash equivalents and restricted cash balances of \$161.5 million is \$0.1 million of restricted cash (see Note 1 “Summary of Significant Accounting Policies” in Item 8 “Financial Statements and Supplementary Data” under the caption Restricted Cash).

CASH FROM OPERATING ACTIVITIES

in millions



Net cash provided by operating activities is derived primarily from net earnings before noncash deductions for depreciation, depletion, accretion and amortization.

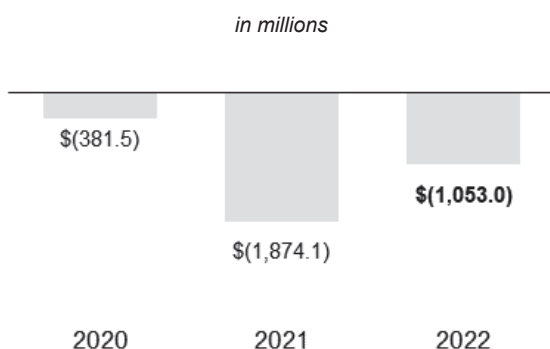
<i>in millions</i>	2022	2021	2020
Net earnings	\$ 576.5	\$ 670.4	\$ 584.5
Depreciation, depletion, accretion and amortization (DDA&A)	587.5	463.0	396.8
Loss on impairments	67.9	4.6	0.0
Noncash operating lease expense	60.3	49.0	38.3
Net gain on sale of PP&E and businesses	(10.7)	(120.1)	(4.0)
Contributions to pension plans	(7.8)	(8.0)	(8.8)
Deferred tax expense	57.7	66.8	62.0
Other operating cash flows, net ¹	(183.2)	(113.8)	1.6
Net cash provided by operating activities	\$ 1,148.2	\$ 1,011.9	\$ 1,070.4

¹ Primarily reflects changes to working capital balances.

2022 VERSUS 2021 — Net cash provided by operating activities was \$1,148.2 million during 2022, a \$136.3 million increase compared to 2021 which primarily resulted from an increase in net earnings excluding non-cash charges for depreciation, depletion, accretion and amortization and impairment losses.

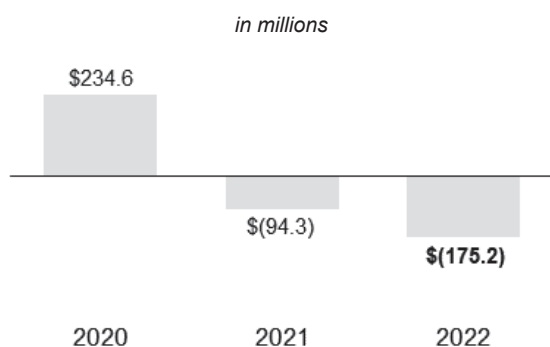
Days sales outstanding, a measurement of the time it takes to collect receivables, were 50.9 days at December 31, 2022 compared to 47.6 days at December 31, 2021. Additionally, our over 90 day balance of \$69.1 million at December 31, 2022 was up from \$46.0 million at December 31, 2021. All customer accounts are actively managed, and no losses in excess of amounts reserved are currently expected.

CASH FROM INVESTING ACTIVITIES



2022 VERSUS 2021 — Net cash used for investing activities was \$1,053.0 million during 2022, a \$821.1 million decrease in cash used compared to 2021. During 2022, we acquired businesses for \$529.2 million of cash consideration as compared to \$1,639.4 million of cash consideration in 2021, accounting for most of the decrease. Additionally, during 2022, we invested \$612.6 million in our existing operations (includes changes in accruals for property, plant & equipment), a \$161.3 million increase compared to 2021. Of this \$612.6 million, \$232.5 million was invested in internal growth projects to enhance our distribution capabilities, develop new production sites and enhance existing production facilities and other growth opportunities. Further, proceeds from the sale of property, plant & equipment and businesses were down \$127.8 million in 2022 from 2021, primarily reflecting the 2021 sale of reclaimed real estate in Southern California (see Note 19 “Acquisitions and Divestitures” in Item 8 “Financial Statements and Supplementary Data”).

CASH FROM FINANCING ACTIVITIES



2022 VERSUS 2021 — Net cash used for financing activities in 2022 was \$175.2 million, compared to \$94.3 million used in 2021. The 2022 activity includes a \$100.0 million net draw on our line of credit. The 2021 activities include: a) cash paid to retire the \$500.0 million floating rate notes due March 2021, b) \$13.3 million of financing costs for a new bridge facility and delayed draw term loan facility (see Note 6 “Debt” in Item 8 “Financial Statements and Supplementary Data”), c) proceeds of \$1,600.0 million from the draw on the delayed draw term loan facility, d) the pay down of \$500.0 million on the delayed draw term loan facility, and e) \$434.5 million to retire U.S. Concrete’s outstanding notes assumed in the acquisition.

Additionally, capital returned to our shareholders increased by \$16.2 million as a result of higher dividends (\$1.60 per share compared to \$1.48 per share).

DEBT

Certain debt measures as of December 31 are outlined below:

<i>dollars in millions</i>	2022	2021
Debt		
Current maturities of long-term debt	\$ 0.5	\$ 5.2
Short-term debt	100.0	0.0
Long-term debt	3,875.2	3,874.8
Total debt	\$ 3,975.7	\$ 3,880.0
Capital		
Total debt	\$ 3,975.7	\$ 3,880.0
Total equity	6,952.2	6,567.7
Total capital	\$ 10,927.9	\$ 10,447.7
Total Debt as a Percentage of Total Capital	36.4%	37.1%
Weighted-average Effective Interest Rates		
Line of credit ¹	1.125%	1.125%
Commercial paper	4.79%	N/A
Term debt	4.75%	3.68%
Fixed versus Floating Interest Rate Debt		
Fixed-rate debt	70.3%	72.1%
Floating-rate debt	29.7%	27.9%

¹ Reflects the margin above SOFR for SOFR-based borrowings; we also paid upfront fees that are amortized to interest expense and pay fees for unused borrowing capacity and standby letters of credit.

At December 31, 2022, total debt to Adjusted EBITDA was 2.4 times or 2.3 times on a net debt basis reflecting \$161.5 million of cash on hand. Our weighted-average debt maturity was 11.0 years.

DELAYED DRAW TERM LOAN, LINE OF CREDIT AND COMMERCIAL PAPER PROGRAM

In June 2021, concurrent with the announcement of the pending acquisition of U.S. Concrete (see Note 19 "Acquisitions and Divestitures" in Item 8 "Financial Statements and Supplementary Data" for additional information), we obtained a \$2,200.0 million bridge facility commitment from Truist Bank. Later, in June 2021, we entered into a \$1,600.0 million unsecured delayed draw term loan with a subset of the banks that provide our line of credit and terminated the bridge facility commitment. The delayed draw term loan was drawn in August 2021 for \$1,600.0 million upon the acquisition of U.S. Concrete, was paid down to \$1,100.0 million in September 2021 and was further paid down to \$550.0 million in August 2022 (amounts repaid are no longer available for borrowing). In March 2022, the delayed draw term loan was amended to extend the maturity date from August 2024 to August 2026. The delayed draw term loan contains covenants customary for an unsecured investment-grade facility and mirror those in our line of credit. As of December 31, 2022, we were in compliance with the delayed draw term loan covenants. Borrowings, cost ranges and other details are described in Note 6 "Debt" in Item 8 "Financial Statements and Supplementary Data." Financing costs for the bridge facility commitment and the delayed draw term loan facility totaled \$13.3 million, \$9.4 million of which was recognized as interest expense in 2021.

Our unsecured line of credit was amended in March 2022 to extend the maturity date from September 2025 to September 2026. It was further amended in August 2022 to increase the borrowing capacity from \$1,000.0 million to \$1,600.0 million and extend the maturity date from September 2026 to August 2027. Our line of credit contains covenants customary for an unsecured investment-grade facility. Covenants, borrowings, cost ranges and other details are described in Note 6 "Debt" in Item 8 "Financial Statements and Supplementary Data." As of December 31, 2022, we were in compliance with the line of credit covenants, the margin for Secured Overnight Financing Rate (SOFR) borrowings was 1.125%, the margin for base rate borrowings was 0.125%, and the commitment fee for the unused amount was 0.100%.

In August 2022, we established a \$1,600.0 million commercial paper program through which we borrowed \$550.0 million that was used to partially repay the delayed draw term loan. Commercial paper borrowings bear interest at rates determined at the time of borrowing and as agreed between us and the commercial paper investors.

As of December 31, 2022, our available borrowing capacity under the line of credit was \$1,421.4 million. Utilization of the borrowing capacity was as follows:

- \$100.0 million was borrowed
- \$78.6 million was used to support standby letters of credit

TERM DEBT

Essentially all of our \$3,941.9 million (face value) of term debt (which includes the \$550.0 million delayed draw term loan and the \$550.0 million commercial paper) is unsecured. All of the covenants in the debt agreements are customary for investment-grade facilities. As of December 31, 2022, we were in compliance with all term debt covenants.

In connection with the August 2021 acquisition of U.S. Concrete, we assumed \$434.5 million (fair value) of senior notes due 2029 and retired these notes in September 2021.

For additional information regarding term debt, see Note 6 “Debt” in Item 8 “Financial Statements and Supplementary Data.”

DEBT PAYMENTS AND MATURITIES

Scheduled debt payments during 2022 were \$5.2 million spread throughout the year. Scheduled debt payments during 2021 included the aforementioned \$500.0 million to retire the floating rate notes due in March, \$9.4 million in July and \$6.0 million in October.

As of December 31, 2022, maturities for the next four quarters and for the next five years are as follows (excluding any borrowings on the line of credit):

<i>in millions</i>	<i>2023</i>		<i>in millions</i>	<i>Debt</i>	
	<i>Debt Maturities</i>			<i>Maturities</i>	
First quarter	\$	0.5	2023	\$	0.5
Second quarter		0.0	2024		0.5
Third quarter		0.0	2025		400.5
Fourth quarter		0.0	2026		550.4
			2027		950.0

For additional information regarding debt payments and maturities, see Note 6 “Debt” in Item 8 “Financial Statements and Supplementary Data.”

DEBT RATINGS

Our debt ratings and outlooks as of December 31, 2022 are as follows:

	<i>Short-term</i>	<i>Long-term</i>	<i>Outlook</i>
Fitch	F2	BBB	Stable
Moody's	P-2	Baa2	Stable
Standard & Poor's	A-2	BBB+	Stable

EQUITY

The number of our common stock issuances and purchases are as follows:

<i>in millions</i>	2022	2021	2020
Common stock shares at January 1, issued and outstanding	132.7	132.5	132.4
Common Stock Issuances			
Share-based compensation plans	0.2	0.2	0.3
Common Stock Purchases			
Purchased and retired	0.0	0.0	(0.2)
Common stock shares at December 31, issued and outstanding	132.9	132.7	132.5

As of December 31, 2022, there were 8,064,851 shares remaining under the February 2017 authorization by our Board of Directors. Depending upon market, business, legal and other conditions, we may purchase shares from time to time through the open market (including plans designed to comply with Rule 10b5-1 of the Securities Exchange Act of 1934) and/or privately negotiated transactions. The authorization has no time limit, does not obligate us to purchase any specific number of shares, and may be suspended or discontinued at any time.

The detail of our common stock purchases (all of which were open market purchases) are as follows:

<i>in millions, except average cost</i>	2022	2021	2020
Shares Purchased and Retired			
Number	0.0	0.0	0.2
Total purchase price	\$ 0.0	\$ 0.0	\$ 26.1
Average cost per share	\$ 0.00	\$ 0.00	\$ 121.92

There were no shares held in treasury as of December 31, 2022, 2021 and 2020.

STANDBY LETTERS OF CREDIT

For a discussion of our standby letters of credit, see Note 6 “Debt” in Item 8 “Financial Statements and Supplementary Data.”

CRITICAL ACCOUNTING POLICIES

We follow certain significant accounting policies when preparing our consolidated financial statements. A summary of these policies is included in Note 1 “Summary of Significant Accounting Policies” in Item 8 “Financial Statements and Supplementary Data.”

We prepare these financial statements to conform with accounting principles generally accepted in the United States of America. These principles require us to make estimates and judgments that affect reported amounts of assets, liabilities, revenues and expenses, and the related disclosures of contingent assets and contingent liabilities at the date of the financial statements. We base our estimates on historical experience, current conditions and various other assumptions we believe reasonable under existing circumstances and evaluate these estimates and judgments on an ongoing basis. The results of these estimates form the basis for our judgments about the carrying values of assets and liabilities as well as identifying and assessing the accounting treatment with respect to commitments and contingencies. Our actual results may materially differ from these estimates.

We believe the following critical accounting policies require the most significant judgments and estimates used in the preparation of our consolidated financial statements:

1. Goodwill impairment
2. Impairment of long-lived assets excluding goodwill
3. Business combinations and purchase price allocation
4. Pension and other postretirement benefits
5. Environmental compliance costs
6. Claims and litigation including self-insurance
7. Income taxes

1. GOODWILL IMPAIRMENT

Goodwill represents the excess of the cost of net assets acquired in business combinations over the fair value of the identifiable tangible and intangible assets acquired and liabilities assumed in a business combination. Goodwill impairment exists when the fair value of a reporting unit is less than its carrying amount. Goodwill is tested for impairment on an annual basis or more frequently whenever events or changes in circumstances would more likely than not reduce the fair value of a reporting unit below its carrying amount. The impairment evaluation is a critical accounting policy because goodwill is material to our total assets (as of December 31, 2022, goodwill represents 26% of total assets), and the evaluation involves the use of significant estimates, assumptions and judgment.

HOW WE TEST GOODWILL FOR IMPAIRMENT

Goodwill is tested for impairment at the reporting unit level, one level below our operating segments. We have identified 17 reporting units (of which 12 carry goodwill) based primarily on geographic location. We have the option of either assessing qualitative factors to determine whether it is more likely than not that the carrying value of our reporting units exceeds their respective fair value or proceeding directly to a quantitative test. We elected to perform the quantitative impairment test for all years presented.

The quantitative impairment test compares the fair value of a reporting unit to its carrying value, including goodwill. If the fair value exceeds its carrying value, the goodwill of the reporting unit is not considered impaired. However, if the carrying value of a reporting unit exceeds its fair value, we recognize an impairment loss equal to that excess.

HOW WE DETERMINE CARRYING VALUE AND FAIR VALUE

We determine the carrying value of each reporting unit by assigning assets and liabilities, including goodwill, to those units as of the measurement date. We estimate the fair values of the reporting units using both an income approach (which involves discounting estimated future cash flows) and a market approach (which involves the application of revenue and EBITDA multiples of comparable companies). We consider market factors when determining the assumptions and estimates used in our valuation models. Finally, to assess the reasonableness of the reporting unit fair values, we compare the total of the reporting unit fair values to our market capitalization.

OUR FAIR VALUE ASSUMPTIONS

We base our fair value estimates on market participant assumptions we believe to be reasonable at the time, but such assumptions are subject to inherent uncertainty and actual results may differ. Changes in key assumptions or management judgment with respect to a reporting unit or its prospects may result from a change in market conditions, market trends, interest rates or other factors outside of our control, or underperformance relative to historical or projected operating results. These conditions could result in a significantly different estimate of the fair value of our reporting units, which could result in an impairment charge in the future.

The significant assumptions in our discounted cash flow models include our estimate of future profitability, capital requirements and the discount rate. The profitability estimates used in the models were derived from internal operating budgets and forecasts for long-term demand and pricing in our industry. Estimated capital requirements reflect replacement capital estimated on a per ton basis and, if applicable, acquisition capital necessary to support growth estimated in the models. The discount rate was derived using a capital asset pricing model.

RESULTS OF OUR IMPAIRMENT TESTS

The results of our annual impairment tests for 2020 through 2021 indicated that the fair values of all reporting units with goodwill substantially exceeded (in excess of 100%) their carrying values. The results of our annual impairment test for 2022 indicated that the fair values of all reporting units with goodwill exceeded their carrying values by approximately 10% to greater than 100%. The reporting units with the smallest excess of fair value versus carrying value include concrete operations acquired with U.S. Concrete in August 2021.

During the third quarter of 2022, we recognized an interim goodwill impairment loss of \$50.9 million for a reporting unit that was subsequently sold during the fourth quarter. Refer to Note 19 “Acquisitions and Divestitures” in Item 8 “Financial Statements and Supplementary Data” for further information.

For additional information about goodwill, see Note 18 “Goodwill and Intangible Assets” in Item 8 “Financial Statements and Supplementary Data.”

2. IMPAIRMENT OF LONG-LIVED ASSETS EXCLUDING GOODWILL

We evaluate the carrying value of long-lived assets, including intangible assets subject to amortization, when events and circumstances indicate that the carrying value may not be recoverable. The impairment evaluation is a critical accounting policy because long-lived assets are material to our total assets (as of December 31, 2022, net property, plant & equipment represents 43% of total assets, while net other intangible assets represents 12% of total assets), and the evaluation involves the use of significant estimates, assumptions and judgment. The carrying value of long-lived assets is considered impaired when the estimated undiscounted cash flows from such assets are less than their carrying value. In that event, we recognize a loss equal to the amount by which the carrying value exceeds the fair value.

Fair value is estimated primarily by using a discounted cash flow methodology that requires considerable judgment and assumptions. Our estimate of net future cash flows is based on historical experience and assumptions of future trends, which may be different from actual results. We periodically review the appropriateness of the estimated useful lives of our long-lived assets.

We test long-lived assets for impairment at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets. As a result, our long-lived asset impairment test is at a significantly lower level than the level at which we test goodwill for impairment. In markets where we do not produce downstream products (e.g., asphalt mix and ready-mixed concrete), the lowest level of largely independent identifiable cash flows is at the individual aggregates operation or a group of aggregates operations collectively serving a local market. Conversely, in vertically integrated markets, the cash flows of our downstream and upstream businesses are not largely independently identifiable as the selling price of the upstream products (aggregates) impacts the profitability of the downstream business.

During the third quarter of 2022, we recognized a long-lived asset impairment loss of \$16.9 million for assets classified as held for sale (subsequently sold during the fourth quarter). Refer to Note 19 “Acquisitions and Divestitures” in Item 8 “Financial Statements and Supplementary Data” for further information.

During 2021 and 2020, we recorded no significant losses on impairment of long-lived assets.

We maintain certain long-lived assets that are not currently being used in our operations. These assets totaled \$516.1 million at December 31, 2022, essentially flat from December 31, 2021. Of the total \$516.1 million, approximately 40% relates to real estate held for future development and expansion of our operations. In addition, approximately 20% is comprised of real estate (principally former mining sites) pending development as commercial or residential real estate, reservoirs or landfills. The remaining 40% is composed of aggregates, asphalt and concrete operating assets idled temporarily. We evaluate the useful lives and the recoverability of these assets whenever events or changes in circumstances indicate that carrying amounts may not be recoverable.

For additional information about long-lived assets and intangible assets, see Note 4 “Property, Plant & Equipment” and Note 18 “Goodwill and Intangible Assets” in Item 8 “Financial Statements and Supplementary Data.”

3. BUSINESS COMBINATIONS AND PURCHASE PRICE ALLOCATION

Our strategic long-term plans include potential investments in value-added acquisitions of related or similar businesses. When an acquisition is completed, our consolidated statements of comprehensive income includes the operating results of the acquired business starting from the date of acquisition, which is the date that control is obtained.

HOW WE DETERMINE AND ALLOCATE THE PURCHASE PRICE

The purchase price is determined based on the fair value of consideration transferred to and liabilities assumed from the seller as of the date of acquisition. We allocate the purchase price to the fair values of the tangible and identifiable intangible assets acquired and liabilities assumed as of the date of acquisition. Goodwill is recorded for the excess of the purchase price over the net fair value of the identifiable assets acquired and liabilities assumed. The purchase price allocation is a critical accounting policy because the estimation of fair values of acquired assets and assumed liabilities is judgmental and requires various assumptions. Additionally, the amounts assigned to depreciable and amortizable assets compared to amounts assigned to goodwill, which is not amortized, can significantly affect our results of operations.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction and therefore represents an exit price. A fair value measurement assumes the highest and best use of the asset by market participants. The fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value into three broad levels as described below:

Level 1: Quoted prices in active markets for identical assets or liabilities

Level 2: Inputs that are derived principally from, or corroborated by, observable market data

Level 3: Inputs that are unobservable and significant to the overall fair value measurement

Level 1 fair values are used to value investments in publicly-traded entities and assumed obligations for publicly-traded long-term debt.

Level 2 fair values are typically used to value acquired machinery and equipment, land, buildings, and assumed liabilities for asset retirement obligations, environmental remediation and compliance obligations. Additionally, Level 2 fair values are typically used to value assumed contracts at other-than-market rates.

Level 3 fair values are used to value acquired mineral reserves as well as leased mineral interests (referred to in our financial statements as contractual rights in place) and other identifiable intangible assets. We determine the fair values of owned mineral reserves and leased mineral interests using a lost profits approach and/or an excess earnings approach. These valuation techniques require management to estimate future cash flows. The estimate of future cash flows is based on available historical information and future expectations and assumptions determined by management, but is inherently uncertain. Key assumptions in estimating future cash flows include sales price, shipment volumes, production costs and capital needs. The present value of the projected net cash flows represents the fair value assigned to mineral reserves and mineral interests. The discount rate is a significant assumption used in the valuation model and is based on the required rate of return that a hypothetical market participant would assume if purchasing the acquired business, with an adjustment for the risk of these assets not generating the projected cash flows.

Other identifiable intangible assets may include, but are not limited to, noncompetition agreements. The fair values of these assets are typically determined by an excess earnings method, a replacement cost method or a market approach.

MEASUREMENT PERIOD ADJUSTMENTS

We may adjust the amounts recognized in an acquisition during a measurement period after the acquisition date. Any such adjustments are the result of subsequently obtaining additional information that existed at the acquisition date regarding the assets acquired or the liabilities assumed. Measurement period adjustments are generally recorded as increases or decreases to goodwill, if any, recognized in the transaction. The cumulative impact of measurement period adjustments on depreciation, amortization and other income statement items are recognized in the period the adjustment is determined. The measurement period ends once we have obtained all necessary information that existed as of the acquisition date, but does not extend beyond one year from the date of acquisition. Any adjustments to assets acquired or liabilities assumed beyond the measurement period, unless as a result of an error, are recorded through earnings.

4. PENSION AND OTHER POSTRETIREMENT BENEFITS

Accounting for pension and other postretirement benefits requires that we use assumptions for the valuation of projected benefit obligations (PBO) and the performance of plan assets. Each year, we review our assumptions for discount rates (used for PBO, service cost, and interest cost calculations), expected return on plan assets and the cost of covered healthcare benefits. Due to plan changes made in 2013, annual pay increases do not materially impact plan obligations.

- **DISCOUNT RATES** — We use a high-quality bond full yield curve approach (specific spot rates for each annual expected cash flow) to establish the discount rates at each measurement date.
- **EXPECTED RETURN ON PLAN ASSETS** — Our expected return on plan assets is: (1) a long-term view based on our current asset allocation, and (2) a judgment informed by consultation with our retirement plans' consultant and our pension plans' actuary.
- **RATE OF INCREASE IN THE PER CAPITA COST OF COVERED HEALTHCARE BENEFITS** — We project the expected increases in the cost of covered healthcare benefits.

See Note 10 "Benefit Plans" in Item 8 "Financial Statements and Supplementary Data" for the discount rates used for PBO, service cost, and interest cost calculations; the expected return on plan assets; and the rate of increase in the per capita cost of healthcare benefits.

Changes to the assumptions listed above would have an impact on the PBO and the annual net benefit cost. The following table reflects the favorable and unfavorable outcomes associated with a change in certain assumptions:

<i>in millions</i>	<i>(Favorable) Unfavorable</i>			
	<i>0.5 Percentage Point Increase</i>		<i>0.5 Percentage Point Decrease</i>	
	<i>Inc (Dec) in Benefit Obligation</i>	<i>Inc (Dec) in Annual Benefit Cost</i>	<i>Inc (Dec) in Benefit Obligation</i>	<i>Inc (Dec) in Annual Benefit Cost</i>
Actuarial Assumptions				
Discount rates				
Pension	\$ (32.9)	\$ 0.0	\$ 35.8	\$ 0.8
Other postretirement benefits	(1.3)	(0.1)	1.4	0.1
Expected return on plan assets	not applicable	(3.1)	not applicable	3.1

As of the December 31, 2022 measurement date, the fair value of our pension plan assets decreased from \$860.5 million for the prior year-end to \$637.8 million due primarily to the rise in interest rates and their impact on the fixed income portfolio. Our postretirement plans are unfunded.

The discount rate is the weighted-average of the spot rates for each cash flow on the yield curve for high-quality bonds as of the measurement date. As of the December 31, 2022 measurement date, the PBO of our pension plans decreased from \$915.4 million to \$691.1 million. This decrease was primarily due to the increase in discount rates for the plans (approximately 2.2 to 2.6 percentage points). The PBO of our postretirement plans decreased from \$46.0 million to \$41.8 million. This decrease was primarily due to the increase in discount rates for the plans (approximately 2.3 to 2.9 percentage points).

During 2023, we expect to recognize net pension expense of \$16.3 million and net postretirement expense of \$4.3 million compared to expense of \$0.6 million and expense of \$1.5 million, respectively, in 2022. The expected increase in pension expense is primarily due to actual asset performance in 2022 that was lower than expected and the significant increase in discount rates, offset by an increase in the long-term return on assets assumption from 4.00% to 4.85%. The increase in postretirement expense is primarily due to unfavorable claims experience and an increase in healthcare trend rates, offset by the increase in discount rates.

We do not anticipate that contributions to the funded pension plans will be required during 2023, and we do not anticipate making a discretionary contribution. We currently do not anticipate that the funded status of any of our plans will fall below statutory thresholds requiring accelerated funding or constraints on benefit levels or plan administration.

For additional information about pension and other postretirement benefits, see Note 10 “Benefit Plans” in Item 8 “Financial Statements and Supplementary Data.”

5. ENVIRONMENTAL COMPLIANCE COSTS

Our environmental compliance costs include the cost of ongoing monitoring programs, the cost of remediation efforts and other similar costs. Our accounting policy for environmental compliance costs is a critical accounting policy because it involves the use of significant estimates and assumptions and requires considerable management judgment.

HOW WE ACCOUNT FOR ENVIRONMENTAL COSTS

To account for environmental costs, we:

- expense or capitalize environmental costs consistent with our capitalization policy
- expense costs for an existing condition caused by past operations that do not contribute to future revenues
- accrue costs for environmental assessment and remediation efforts when we determine that a liability is probable and we can reasonably estimate the cost

At the early stages of a remediation effort, environmental remediation liabilities are not easily quantified due to the uncertainties of various factors. The range of an estimated remediation liability is defined and redefined as events in the remediation effort occur, but generally liabilities are recognized no later than completion of the remedial feasibility study. When we can estimate a range of probable loss, we accrue the most likely amount. If no amount in the range of probable loss is considered most likely, the minimum loss in the range is accrued. As of December 31, 2022, the difference between the amount accrued and the maximum loss in the range for all sites for which a range can be reasonably estimated was \$6.4 million — this amount does not represent our maximum exposure to loss for all environmental remediation obligations as it excludes those sites for which a range of loss cannot be reasonably estimated at this time. Our environmental remediation obligations are recorded on an undiscounted basis.

Accrual amounts may be based on technical cost estimations or the professional judgment of experienced environmental managers. Our Safety, Health and Environmental Affairs Management Committee routinely reviews cost estimates and key assumptions in response to new information, such as the kinds and quantities of hazardous substances, available technologies and changes to the parties participating in the remediation efforts. However, a number of factors, including adverse agency rulings and unanticipated conditions as remediation efforts progress, may cause actual results to differ materially from accrued costs.

For additional information about environmental compliance costs, see Note 8 “Accrued Environmental Remediation Costs” in Item 8 “Financial Statements and Supplementary Data.”

6. CLAIMS AND LITIGATION INCLUDING SELF-INSURANCE

We are involved with claims and litigation, including items covered under our self-insurance program. We are self-insured for losses related to workers' compensation up to \$2.0 million per occurrence and automotive and general/product liability up to \$10.0 million per occurrence. We have excess coverage on a per occurrence basis beyond these retention levels.

Under our self-insurance program, we aggregate certain claims and litigation costs that are reasonably predictable based on our historical loss experience and accrue losses, including future legal defense costs, based on actuarial studies. Certain claims and litigation costs, due to their unique nature, are not included in our actuarial studies. For matters not included in our actuarial studies, legal defense costs are accrued when incurred.

Our accounting policy for claims and litigation including self-insurance is a critical accounting policy because it involves the use of significant estimates and assumptions and requires considerable management judgment.

HOW WE ASSESS THE PROBABILITY OF LOSS

We use both internal and outside legal counsel to assess the probability of loss, and we establish an accrual when the claims and litigation represent a probable loss and the cost can be reasonably estimated. Significant judgment is used in determining the timing and amount of the accruals for probable losses, and the actual liability could differ materially from the accrued amounts.

For additional information about claims and litigation including self-insurance, see Note 1 "Summary of Significant Accounting Policies" in Item 8 "Financial Statements and Supplementary Data" under the caption Claims and Litigation Including Self-insurance.

7. INCOME TAXES

VALUATION OF OUR DEFERRED TAX ASSETS

We file federal, state and foreign income tax returns and account for the current and deferred tax effects of such returns using the asset and liability method. We recognize deferred tax assets and liabilities (which reflect our best assessment of the future taxes we will pay) based on the differences between the book basis and tax basis of assets and liabilities. Deferred tax assets represent items to be used as a tax deduction or credit in future tax returns while deferred tax liabilities represent items that will result in additional tax in future tax returns.

Significant judgments and estimates are required in determining our deferred tax assets and liabilities. These estimates are updated throughout the year to consider income tax return filings, our geographic mix of earnings, legislative changes and other relevant items. We are required to account for the effects of changes in income tax rates on deferred tax balances in the period in which the legislation is enacted.

Each quarter we analyze the likelihood that our deferred tax assets will be realized. Realization of the deferred tax assets ultimately depends on the existence of sufficient taxable income of the appropriate character in either the carryback or carryforward period. A valuation allowance is recorded if, based on the weight of all available positive and negative evidence, it is more likely than not (a likelihood of more than 50%) that some portion, or all, of a deferred tax asset will not be realized. A summary of our deferred tax assets is included in Note 9 "Income Taxes" in Item 8 "Financial Statements and Supplementary Data."

LIABILITY FOR UNRECOGNIZED TAX BENEFITS

We recognize a tax benefit associated with a tax position when we judge it is more likely than not that the position will be sustained based upon the technical merits of the position. For a tax position that meets the more likely than not recognition threshold, we measure the income tax benefit as the largest amount that we judge to have a greater than 50% likelihood of being realized. A liability is established for the unrecognized portion of any tax position. Our liability for unrecognized tax benefits is adjusted periodically due to changing circumstances, such as the progress of tax audits, case law developments and new legislation.

Generally, we are not subject to significant changes in income taxes by any taxing jurisdiction for the years before 2019. While it is often difficult to predict the final outcome or the timing of resolution of any particular tax matter, we believe our liability for unrecognized tax benefits is appropriate.

We consider a tax position to be resolved at the earlier of the issue being “effectively settled,” settlement of an examination, or the expiration of the statute of limitations. Upon resolution of a tax position, any liability for unrecognized tax benefits will be released.

Our liability for unrecognized tax benefits is generally presented as noncurrent. However, if we anticipate paying cash within one year to settle an uncertain tax position, the liability is presented as current. We classify interest and penalties associated with our liability for unrecognized tax benefits as income tax expense.

NEW ACCOUNTING STANDARDS

For a discussion of accounting standards recently adopted or pending adoption and the effect such accounting changes will have on our results of operations, financial position or liquidity, see Note 1 “Summary of Significant Accounting Policies” in Item 8 “Financial Statements and Supplementary Data” under the caption New Accounting Standards.

FORWARD-LOOKING STATEMENTS

The foregoing discussion and analysis, as well as certain information contained elsewhere in this Annual Report, contain “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, and are intended to be covered by the safe harbor created thereby. See the discussion in Safe Harbor Statement under the Private Securities Litigation Reform Act of 1995 in Part I, above.

MARKET RISK

We are exposed to certain market risks arising from transactions that are entered into in the normal course of business. To manage these market risks, we may use derivative financial instruments. We do not enter into derivative financial instruments for trading or speculative purposes.

As discussed in the Liquidity and Financial Resources section of Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations," we actively manage our capital structure and resources to balance the cost of capital and risk of financial stress. Such activity includes balancing the cost and risk of interest expense. In addition to floating-rate borrowings, we at times use interest rate swaps to manage the mix of fixed-rate and floating-rate debt and to mitigate the risk of higher interest rates.

At December 31, 2022, the estimated fair value of our long-term debt including current maturities was \$3,672.3 million compared to a face value of \$3,941.9 million. The estimated fair value was determined by averaging several asking price quotes for the publicly traded notes and assuming par value for the remainder of the debt. The fair value estimate is based on information available as of the balance sheet date. The effect of a decline in interest rates of one percentage point would increase the fair value of our debt by approximately \$232.4 million.

We are exposed to certain economic risks related to the costs of our pension and other postretirement benefit plans. These economic risks include changes in the discount rate for high-quality bonds and the expected return on plan assets. The impact of a change in these assumptions on our annual pension and other postretirement benefits costs is discussed in greater detail within the Critical Accounting Policies section of this Annual Report.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of Vulcan Materials Company:

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Vulcan Materials Company and subsidiaries (the "Company") as of December 31, 2022 and 2021, the related consolidated statements of comprehensive income, equity, and cash flows, for each of the three years in the period ended December 31, 2022, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2022, based on the criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 24, 2023 expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current-period audit of the financial statements that were communicated or required to be communicated to the audit committee and that (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Goodwill Valuation — Concrete Reporting Units — Refer to Notes 1 and 18 to the consolidated financial statements

Critical Audit Matter Description

The Company's evaluation of goodwill for impairment involves the comparison of the fair value of each reporting unit to its carrying value. The Company determines the fair value of its reporting units using both an income approach (which involves discounted estimated future cash flows) and a market approach (which involves the application of revenue and earnings before interest, taxes, depreciation, and amortization (EBITDA) multiples for comparable companies). The goodwill balance was \$3,689.6 million as of December 31, 2022, of which \$267.7 million was allocated to concrete reporting units. The fair value exceeded the carrying value for each reporting unit as of the measurement date and, therefore, no impairment was recognized.

We identified goodwill for certain concrete reporting units as a critical audit matter because of the significant estimates and assumptions management makes to estimate the fair value and the sensitivity of the fair value of each to selected revenue and EBITDA multiples and discount rates. This required a high degree of auditor judgment and an increased extent of effort, including the need to involve our fair value specialists, when performing audit procedures to evaluate the reasonableness of management's estimates: specifically, assumptions related to the selection of revenue and EBITDA multiples and the discount rates.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the selection of revenue and EBITDA multiples and the discount rates for the concrete reporting units included the following, among others:

- We tested the effectiveness of controls over management's goodwill impairment evaluation, including those over the determination of the fair value of the concrete reporting units, such as controls related to management's selection of revenue and EBITDA multiples and the discount rates.
- With the assistance of our fair value specialists, we performed the following:
 - Evaluated the discount rates, including testing the underlying source information and the mathematical accuracy of the calculations, and developing a range of independent estimates and comparing those to the discount rates selected by management.
 - Evaluated the revenue and EBITDA multiples, including testing the underlying source information and mathematical accuracy of the calculations, and comparing the multiples selected by management to its guideline companies and comparable sale transactions, to the extent applicable.

Hewitt Landfill Environmental Matter – Refer to Note 12 to the consolidated financial statements

Critical Audit Matter Description

The Company is subject to governmental proceedings and orders pertaining to the protection of the environment. Specific to the Hewitt Landfill Environmental Matter, management is engaged in groundwater testing, certain remedial procedures and ongoing dialogue with federal and local agencies such as the Environmental Protection Agency (EPA), Los Angeles Regional Water Quality Control Board (RWQCB) and the Los Angeles Department of Water and Power (LADWP) as well as other interested parties. The testing and dialogue is related to the Company's potential contribution to soil, soil vapor and/or groundwater contamination in the former Hewitt Landfill in Los Angeles and the potential contribution of the Hewitt Landfill to groundwater contamination in the North Hollywood Operable Unit (NHOU) of the San Fernando Valley Superfund Site.

The groundwater treatment system for the Hewitt Landfill on-site remediation is fully operational and the incurred and anticipated costs have been fully accrued for based on facts and circumstances known to the Company at this time. The Company has disclosed facts and circumstances that led to the accrual and the inherent uncertainty that exists in the timing and recognition of potential incremental responsibility or share of costs for the Hewitt Landfill on-site remediation or the NHOU. Due to these uncertainties, future amounts recorded related to the ultimate resolution of claims and assessments could cause actual losses to differ materially from accrued costs.

We identified the Hewitt Landfill and NHOU (collectively the "Hewitt Landfill Environmental Matter" or "the Matter") as a critical audit matter because evaluating the estimate of the liability and the extent and sufficiency of related disclosures is subjective in nature and as such requires an increased extent of effort, involves especially subjective auditing judgments, and requires the involvement of our environmental specialists.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the uncertainty in the timing, recognition and disclosure of the Company's responsibility and potential share of remediation costs, specifically as they relate to the Hewitt Landfill Environmental Matter include the following, among others:

- We tested the operating effectiveness of controls over the identification and evaluation of information available to assess potential responsibility or share of remediation costs for the Hewitt Landfill Environmental Matter, as well as controls over the adequacy of the related financial statement footnote disclosures.
- With the assistance of our environmental specialists, we evaluated the accuracy and completeness of management's recorded liabilities for the Hewitt Landfill Environmental Matter by:
 - Obtaining letters from internal and external counsel as to the Matter's status, probability of an unfavorable outcome, and the amount or range of potential loss should the outcome be unfavorable.
 - Independently obtaining and reading correspondence from the EPA, RWQCB and LADWP regarding the Hewitt Landfill Environmental Matter.
 - Obtaining an understanding of the change in estimate of remediation costs, as applicable, and performing procedures to evaluate the appropriateness and sufficiency of the estimate at year-end.
- We read and compared the Company's footnote disclosure to evidential matter obtained during the audit.

/s/ DELOITTE & TOUCHE LLP
Birmingham, Alabama
February 24, 2023

We have served as the Company's auditor since 1956.

VULCAN MATERIALS COMPANY AND SUBSIDIARY COMPANIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	2022	2021	2020
<i>For the years ended December 31</i>			
<i>in millions, except per share data</i>			
Total revenues	\$ 7,315.2	\$ 5,552.2	\$ 4,856.8
Cost of revenues	5,757.5	4,178.8	3,575.3
Gross profit	1,557.7	1,373.4	1,281.5
Selling, administrative and general expenses	515.1	417.6	359.8
Gain on sale of property, plant & equipment and businesses	10.7	120.1	4.0
Loss on impairments	(67.9)	(4.6)	0.0
Other operating expense, net	(34.0)	(60.5)	(30.0)
Operating earnings	951.4	1,010.8	895.7
Other nonoperating income (expense), net	5.1	10.7	(17.5)
Interest income	0.8	1.6	1.6
Interest expense	169.2	149.3	136.0
Earnings from continuing operations before income taxes	788.1	873.8	743.8
Income tax expense			
Current	133.4	133.5	93.9
Deferred	59.6	66.6	61.9
Total income tax expense	193.0	200.1	155.8
Earnings from continuing operations	595.1	673.7	588.0
Loss on discontinued operations, net of tax	(18.6)	(3.3)	(3.5)
Net earnings	576.5	670.4	584.5
(Earnings) loss attributable to noncontrolling interest	(0.9)	0.4	0.0
Net earnings attributable to Vulcan	\$ 575.6	\$ 670.8	\$ 584.5
Other comprehensive income (loss), net of tax			
Deferred loss on cash flow hedge	0.0	0.0	(14.7)
Amortization of prior cash flow hedge loss	1.5	1.5	1.7
Adjustment for funded status of benefit plans	(6.5)	13.4	6.4
Amortization of actuarial loss and prior service cost for benefit plans	3.0	13.7	23.0
Other comprehensive income (loss)	(2.0)	28.6	16.4
Comprehensive income	574.5	699.0	600.9
Comprehensive (earnings) loss attributable to noncontrolling interest	(0.9)	0.4	0.0
Comprehensive income attributable to Vulcan	\$ 573.6	\$ 699.4	\$ 600.9
Basic earnings (loss) per share attributable to Vulcan			
Continuing operations	\$ 4.47	\$ 5.08	\$ 4.44
Discontinued operations	(0.14)	(0.03)	(0.03)
Net earnings	\$ 4.33	\$ 5.05	\$ 4.41
Diluted earnings (loss) per share attributable to Vulcan			
Continuing operations	\$ 4.45	\$ 5.05	\$ 4.41
Discontinued operations	(0.14)	(0.03)	(0.02)
Net earnings	\$ 4.31	\$ 5.02	\$ 4.39
Weighted-average common shares outstanding			
Basic	133.0	132.8	132.6
Assuming dilution	133.6	133.5	133.2

The accompanying Notes to Consolidated Financial Statements are an integral part of these statements.

VULCAN MATERIALS COMPANY AND SUBSIDIARY COMPANIES
CONSOLIDATED BALANCE SHEETS

	2022	2021
<i>As of December 31</i>		
<i>in millions</i>		
Assets		
Cash and cash equivalents	\$ 161.4	\$ 235.0
Restricted cash	0.1	6.5
Accounts and notes receivable		
Customers, less allowance for credit losses		
2022 — \$10.9; 2021 — \$10.3	845.6	783.2
Other	199.7	55.5
Inventories	579.3	521.3
Other current assets	115.9	95.1
Total current assets	1,902.0	1,696.6
Investments and long-term receivables	31.8	34.1
Property, plant & equipment, net	6,051.3	5,546.8
Operating lease right-of-use assets, net	572.6	691.4
Goodwill	3,689.6	3,696.7
Other intangible assets, net	1,702.1	1,749.0
Other noncurrent assets	285.2	268.0
Total assets	\$ 14,234.6	\$ 13,682.6
Liabilities		
Current maturities of long-term debt	0.5	5.2
Short-term debt	100.0	0.0
Trade payables and accruals	454.5	365.5
Accrued salaries, wages and management incentives	112.7	120.5
Accrued interest	20.0	19.6
Other current liabilities	268.9	258.5
Total current liabilities	956.6	769.3
Long-term debt	3,875.2	3,874.8
Deferred income taxes, net	1,072.8	1,005.9
Pension and other postretirement benefits	82.2	106.3
Asset retirement obligations	311.3	315.2
Deferred revenue	159.8	167.1
Noncurrent operating lease liabilities	548.4	642.5
Other noncurrent liabilities	276.1	233.8
Total liabilities	\$ 7,282.4	\$ 7,114.9
Other commitments and contingencies (Note 12)		
Equity		
Common stock, \$1 par value, Authorized 480.0 shares, Outstanding 132.9 and 132.7 shares, respectively	132.9	132.7
Capital in excess of par value	2,839.0	2,816.5
Retained earnings	4,111.4	3,748.5
Accumulated other comprehensive loss	(154.7)	(152.7)
Total shareholders' equity	6,928.6	6,545.0
Noncontrolling interest	23.6	22.7
Total equity	6,952.2	6,567.7
Total liabilities and equity	\$ 14,234.6	\$ 13,682.6

The accompanying Notes to Consolidated Financial Statements are an integral part of these statements.

VULCAN MATERIALS COMPANY AND SUBSIDIARY COMPANIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

	2022	2021	2020
<i>For the years ended December 31</i>			
<i>in millions</i>			
Operating Activities			
Net earnings	\$ 576.5	\$ 670.4	\$ 584.5
Adjustments to reconcile net earnings to net cash provided by operating activities			
Depreciation, depletion, accretion and amortization	587.5	463.0	396.8
Loss on impairments	67.9	4.6	0.0
Noncash operating lease expense	60.3	49.0	38.3
Net gain on sale of property, plant & equipment and businesses	(10.7)	(120.1)	(4.0)
Contributions to pension plans	(7.8)	(8.0)	(8.8)
Share-based compensation expense	41.1	34.7	33.0
Deferred tax expense	57.7	66.8	62.0
(Increase) decrease in assets excluding the initial effects of business acquisitions and dispositions			
Accounts and notes receivable	(53.3)	(42.0)	13.4
Inventories	(49.5)	8.3	9.8
Prepaid expenses	9.5	(14.2)	2.6
Other assets	(101.8)	(29.8)	(14.4)
Increase (decrease) in liabilities excluding the initial effects of business acquisitions and dispositions			
Accrued interest and income taxes	0.4	(0.4)	0.8
Trade payables and other accruals	(17.4)	(23.3)	(6.9)
Other noncurrent liabilities	(36.4)	(78.9)	(44.9)
Other, net	24.2	31.8	8.2
Net cash provided by operating activities	\$ 1,148.2	\$ 1,011.9	\$ 1,070.4
Investing Activities			
Purchases of property, plant & equipment	(612.6)	(451.3)	(362.2)
Proceeds from sale of property, plant & equipment	38.7	216.5	11.5
Proceeds from sale of businesses	50.0	0.0	1.0
Payment for businesses acquired, net of acquired cash	(529.2)	(1,639.4)	(43.2)
Other, net	0.1	0.1	11.4
Net cash used for investing activities	\$ (1,053.0)	\$ (1,874.1)	\$ (381.5)
Financing Activities			
Proceeds from short-term debt	1,361.0	0.0	0.0
Payment of short-term debt	(1,261.0)	0.0	0.0
Payment of current maturities and long-term debt	(557.7)	(1,451.7)	(250.0)
Proceeds from issuance of long-term debt	550.0	1,600.0	750.0
Debt issuance and exchange costs	(2.8)	(13.3)	(15.4)
Payment of finance leases	(33.8)	(13.5)	(1.6)
Settlements of interest rate derivatives	0.0	0.0	(19.9)
Purchases of common stock	0.0	0.0	(26.1)
Dividends paid	(212.6)	(196.4)	(180.2)
Share-based compensation, shares withheld for taxes	(18.5)	(19.1)	(22.1)
Other, net	0.2	(0.3)	(0.1)
Net cash provided by (used for) financing activities	\$ (175.2)	\$ (94.3)	\$ 234.6
Net increase (decrease) in cash and cash equivalents and restricted cash	(80.0)	(956.5)	923.5
Cash and cash equivalents and restricted cash at beginning of year	241.5	1,198.0	274.5
Cash and cash equivalents and restricted cash at end of year	\$ 161.5	\$ 241.5	\$ 1,198.0

The accompanying Notes to Consolidated Financial Statements are an integral part of these statements.

VULCAN MATERIALS COMPANY AND SUBSIDIARY COMPANIES
CONSOLIDATED STATEMENTS OF EQUITY

<i>in millions</i>	<i>Common Stock</i>		<i>Capital in</i>	<i>Retained</i>	<i>Accumulated</i>	<i>Total</i>	<i>Non-</i>	<i>Total</i>
	<i>Shares</i>	<i>Amount</i>	<i>Excess of</i>	<i>Earnings</i>	<i>Other</i>	<i>Shareholders'</i>	<i>controlling</i>	
			<i>Par Value</i>		<i>Comprehensive</i>	<i>Equity</i>	<i>Interest</i>	
					<i>Income (Loss)</i>			
Balances at December 31, 2019	132.4	\$ 132.4	\$ 2,791.3	\$ 2,895.9	\$ (197.7)	\$ 5,621.9	\$ 0.0	\$ 5,621.9
Net earnings	0.0	0.0	0.0	584.5	0.0	584.5	0.0	584.5
Share-based compensation plans, net of shares withheld for taxes	0.3	0.3	(22.4)	0.0	0.0	(22.1)	0.0	(22.1)
Purchase and retirement of common stock	(0.2)	(0.2)	0.0	(25.9)	0.0	(26.1)	0.0	(26.1)
Share-based compensation expense	0.0	0.0	33.0	0.0	0.0	33.0	0.0	33.0
Cash dividends on common stock	0.0	0.0	0.0	(180.2)	0.0	(180.2)	0.0	(180.2)
Other comprehensive income	0.0	0.0	0.0	0.0	16.4	16.4	0.0	16.4
Other	0.0	0.0	0.1	(0.2)	0.0	(0.1)	0.0	(0.1)
Balances at December 31, 2020	132.5	\$ 132.5	\$ 2,802.0	\$ 3,274.1	\$ (181.3)	\$ 6,027.3	\$ 0.0	\$ 6,027.3
Net earnings	0.0	0.0	0.0	670.8	0.0	670.8	(0.4)	670.4
Share-based compensation plans, net of shares withheld for taxes	0.2	0.2	(20.3)	0.0	0.0	(20.1)	0.0	(20.1)
Share-based compensation expense	0.0	0.0	34.7	0.0	0.0	34.7	0.0	34.7
Cash dividends on common stock	0.0	0.0	0.0	(196.4)	0.0	(196.4)	0.0	(196.4)
Other comprehensive income	0.0	0.0	0.0	0.0	28.6	28.6	0.0	28.6
Acquisition of noncontrolling interest	0.0	0.0	0.0	0.0	0.0	0.0	23.1	23.1
Other	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1
Balances at December 31, 2021	132.7	\$ 132.7	\$ 2,816.5	\$ 3,748.5	\$ (152.7)	\$ 6,545.0	\$ 22.7	\$ 6,567.7
Net earnings	0.0	0.0	0.0	575.6	0.0	575.6	0.9	576.5
Share-based compensation plans, net of shares withheld for taxes	0.2	0.2	(18.7)	0.0	0.0	(18.5)	0.0	(18.5)
Share-based compensation expense	0.0	0.0	41.1	0.0	0.0	41.1	0.0	41.1
Cash dividends on common stock	0.0	0.0	0.0	(212.6)	0.0	(212.6)	0.0	(212.6)
Other comprehensive income (loss)	0.0	0.0	0.0	0.0	(2.0)	(2.0)	0.0	(2.0)
Other	0.0	0.0	0.1	(0.1)	0.0	0.0	0.0	0.0
Balances at December 31, 2022	132.9	\$ 132.9	\$ 2,839.0	\$ 4,111.4	\$ (154.7)	\$ 6,928.6	\$ 23.6	\$ 6,952.2

The accompanying Notes to Consolidated Financial Statements are an integral part of these statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1: SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

NATURE OF OPERATIONS

Vulcan Materials Company (the “Company,” “Vulcan,” “we,” “our”), a New Jersey corporation, is the nation's largest supplier of construction aggregates (primarily crushed stone, sand and gravel), a major producer of asphalt mix and ready-mixed concrete, and a supplier of construction paving services.

We operate primarily in the United States, and our principal product — aggregates — is used in virtually all types of public and private construction projects and in the production of asphalt mix and ready-mixed concrete. We serve aggregates markets in twenty-two states, the U.S. Virgin Islands, Washington D.C., and the local markets surrounding our operations in Freeport, Bahamas; British Columbia, Canada; Puerto Cortés, Honduras; and Quintana Roo, Mexico (see Note 12, NAFTA Arbitration). Our primary focus is serving metropolitan markets in the United States that are expected to experience the most significant growth in population, households and employment. These three demographic factors are significant drivers of demand for aggregates. While aggregates is our focus and primary business, we produce and sell asphalt mix and/or ready-mixed concrete in our Alabama, Arizona, California, Maryland, New Mexico, Oklahoma, Tennessee, Texas, Virginia, U.S. Virgin Islands and Washington D.C.

Year-over-year comparisons are significantly impacted by our August 2021 acquisition of U.S. Concrete (see Note 19).

Due to the 2005 sale of our Chemicals business as described below, the results of the Chemicals business are presented as discontinued operations in the accompanying Consolidated Statements of Comprehensive Income.

DISCONTINUED OPERATIONS

In 2005, we sold substantially all the assets of our Chemicals business to Basic Chemicals, a subsidiary of Occidental Chemical Corporation. The financial results of the Chemicals business are classified as discontinued operations in the accompanying Consolidated Statements of Comprehensive Income for all periods presented. Results from discontinued operations are as follows:

<i>in millions</i>	2022	2021	2020
Discontinued Operations			
Pretax loss	\$ (25.2)	\$ (4.5)	\$ (4.7)
Income tax benefit	6.6	1.2	1.2
Loss on discontinued operations, net of tax	\$ (18.6)	\$ (3.3)	\$ (3.5)

Our discontinued operations include charges related to general and product liability costs, including legal defense costs, and environmental remediation costs associated with our former Chemicals business (including certain matters as discussed in Note 12). In addition, 2022 includes a \$15.3 million charge for a litigation matter. There were no revenues from discontinued operations for the years presented.

PRINCIPLES OF CONSOLIDATION

The consolidated financial statements include the accounts of Vulcan Materials Company and all our majority or wholly-owned subsidiary companies. Partially-owned affiliates are either consolidated or accounted for at cost or as equity investments depending on the level of ownership interest or our ability to exercise control over the affiliates' operations. All intercompany transactions and accounts have been eliminated in consolidation.

NONCONTROLLING INTEREST

In connection with our August 2021 U.S. Concrete acquisition, we obtained an 88% controlling interest in the Orca Sand and Gravel Limited Partnership (Orca). Orca was formed to develop the Orca quarry in British Columbia, Canada. The remaining 12% noncontrolling interest is held by the Namgis First Nation (Namgis). This noncontrolling interest consists of the Namgis' share of the fair value equity in the partnership. Our condensed consolidated financial statements recognize the full fair value of all of the subsidiary's assets and liabilities offset by the noncontrolling interest in total equity.

USE OF ESTIMATES IN THE PREPARATION OF FINANCIAL STATEMENTS

The preparation of these financial statements in conformity with accounting principles generally accepted (GAAP) in the United States of America requires us to make estimates and judgments that affect reported amounts of assets, liabilities, revenues and expenses, and the related disclosures of contingent assets and contingent liabilities at the date of the financial statements. We evaluate these estimates and judgments on an ongoing basis and base our estimates on historical experience, current conditions and various other assumptions that are believed to be reasonable under the circumstances. The results of these estimates form the basis for our judgments about the carrying values of assets and liabilities as well as identifying and assessing the accounting treatment with respect to commitments and contingencies. Actual results may differ materially from these estimates. The most significant estimates included in the preparation of these financial statements are related to goodwill and long-lived asset impairments, business combinations and purchase price allocation, pension and other postretirement benefits, environmental compliance, claims and litigation including self-insurance, and income taxes. Events that relate to conditions arising after December 31, 2022 will be reflected in management's estimates for future periods. This includes conditions resulting from the impacts of the current conflict between Russia and Ukraine, as construction activity continues to be impacted by cost inflation and capacity constraints (including supply chain bottlenecks, labor shortages and transportation availability).

BUSINESS COMBINATIONS

We account for business combinations under the acquisition method of accounting. The purchase price of an acquisition is allocated to the underlying identifiable assets acquired and liabilities assumed based on their respective fair values. The purchase price is determined based on the fair value of consideration transferred to and liabilities assumed from the seller as of the date of acquisition. We allocate the purchase price to the fair values of the tangible and identifiable intangible assets acquired and liabilities assumed as of the date of acquisition. Goodwill is recorded for the excess of the purchase price over the net fair value of the identifiable assets acquired and liabilities assumed.

Determining the fair values of assets acquired and liabilities assumed requires judgment and often involves the use of significant estimates and assumptions. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction, and therefore represents an exit price. A fair value measurement assumes the highest and best use of the asset by market participants.

We may adjust the amounts recognized in an acquisition during a measurement period after the acquisition date. Any such adjustments are the result of subsequently obtaining additional information that existed at the acquisition date regarding the assets acquired or the liabilities assumed. Measurement period adjustments are generally recorded as increases or decreases to goodwill, if any, recognized in the transaction. The cumulative impact of measurement period adjustments on depreciation, amortization and other income statement items are recognized in the period the adjustment is determined.

FOREIGN CURRENCY TRANSACTIONS

The U.S. dollar is the functional currency for all of our operations, as the primary economic environment in which we transact business is the United States. For our non-U.S. subsidiaries, local currency inventories and long-term assets such as property, plant & equipment and intangibles are remeasured into U.S. dollars at approximate rates prevailing when acquired; all other assets and liabilities are remeasured at year-end exchange rates. Inventories charged to cost of sales and depreciation are remeasured at historical rates; all other income and expense items are remeasured at average exchange rates prevailing during the year. Gains and losses which result from remeasurement are included in other nonoperating income/expense in the accompanying Consolidated Statements of Comprehensive Income and are not material for the years presented.

CASH EQUIVALENTS

We classify as cash equivalents all highly liquid securities with a maturity of three months or less at the time of purchase. The carrying amount of these securities approximates fair value due to their short-term maturities.

RESTRICTED CASH

Restricted cash primarily consists of cash proceeds from the sale of property held in escrow for the acquisition of replacement property under like-kind exchange agreements. The escrow accounts are administered by an intermediary. Cash restricted pursuant to like-kind exchange agreements remains restricted for a maximum of 180 days from the date of the property sale pending the acquisition of replacement property. Restricted cash may also include cash reserved by other contractual agreements (such as asset purchase agreements) for a specified purpose and therefore is not available for use for other purposes. Restricted cash is included with cash and cash equivalents in the accompanying Consolidated Statements of Cash Flows.

ACCOUNTS AND NOTES RECEIVABLE

Accounts and notes receivable from customers result from our extending credit to trade customers for the purchase of our products. The terms generally provide for payment within 15 days of the month following invoice. On occasion, when necessary to conform to regional industry practices, we sell product under extended payment terms, which may result in either secured or unsecured short-term notes; or, on occasion, notes with durations of less than one year are taken in settlement of existing accounts receivable. Other accounts and notes receivable result from short-term transactions (less than one year) other than the sale of our products, such as interest receivable, insurance claims, freight claims, bid deposits or rents receivable.

Allowance for credit losses is based on our assessment of the collectability of customer accounts. We regularly review the allowance by considering factors such as historical experience, credit quality, the age of the accounts receivable balances, and current economic conditions that may affect a customer's ability to pay. Bad debt expense (included in selling, administrative and general expense) for the years ended December 31 was as follows: 2022 — \$0.7 million, 2021 — \$1.3 million and 2020 — \$1.1 million.

INVENTORIES

Inventories and supplies are stated at the lower of cost or net realizable value. We use the last-in, first-out (LIFO) method of valuation for most of our inventories because it results in a better matching of costs with revenues. Such costs include fuel, parts and supplies, raw materials, direct labor and production overhead. An actual valuation of inventory under the LIFO method can be made only at the end of each year based on the inventory levels and costs at that time. Accordingly, interim LIFO calculations are based on our estimates of expected year-end inventory levels and costs and are subject to the final year-end LIFO inventory valuation. Substantially all operating supplies inventory is carried at average cost.

For additional information about inventories, see Note 3.

PROPERTY, PLANT & EQUIPMENT

Property, plant & equipment are carried at cost less accumulated depreciation, depletion and amortization.

For assets sold or otherwise disposed of, the cost and related accumulated depreciation are removed, and any related gain or loss is reflected in income.

For additional information about our property, plant & equipment, see Note 4.

REPAIR AND MAINTENANCE

Repair and maintenance costs generally are charged to operating expense as incurred. Renewals and betterments that add materially to the utility or useful lives of property, plant & equipment are capitalized and subsequently depreciated. Actual costs for planned major maintenance activities, related primarily to periodic overhauls on our aircrafts and oceangoing vessels, are capitalized and amortized to the next overhaul.

LEASES

Our nonmineral leases with initial terms in excess of one year are recognized on the balance sheet as right-of-use (ROU) assets and lease liabilities. Mineral leases are exempt from balance sheet recognition.

ROU assets represent our right to use an underlying asset for the lease term, and lease liabilities represent our obligation to make lease payments arising from the leases. ROU assets and lease liabilities are recognized at the lease commencement date based on the present value of lease payments over the lease term. The lease term only includes options to extend or terminate the lease when it is reasonably certain that we will exercise that option. As our leases do not provide an implicit rate, we use our incremental borrowing rate based on the information available at the commencement date in determining the present value of lease payments. ROU assets are adjusted for any prepaid lease payments and lease incentives. Except for equipment with monthly monitoring service where the service component accounts for a majority of the lease cost, the non-lease components of our lease agreements are not separated from the lease components.

For additional information about leases, see Note 7.

DEPRECIATION, DEPLETION, ACCRETION AND AMORTIZATION

Depreciation is generally computed by the straight-line method at rates based on the estimated service lives of the various classes of assets, which include machinery and equipment (3 to 35 years), buildings (7 to 20 years) and land improvements (3 to 20 years). Finance leases are amortized over varying periods not in excess of applicable lease terms or estimated useful lives. Capitalized software costs are included in machinery and equipment and are depreciated on a straight-line basis beginning when the software project is substantially complete.

Cost depletion on depletable land is computed by the unit-of-sales method based on estimated recoverable units.

Accretion reflects the period-to-period increase in the carrying amount of the liability for asset retirement obligations. It is computed using the same credit-adjusted, risk-free rate used to initially measure the liability at fair value.

Leaseholds are amortized over varying periods not in excess of applicable lease terms or estimated useful lives.

Amortization of intangible assets subject to amortization is computed based on the estimated life of the intangible assets. A significant portion of our intangible assets is contractual rights in place associated with zoning, permitting and other rights to access and extract aggregates reserves. Contractual rights in place associated with aggregates reserves are amortized using the unit-of-sales method based on estimated recoverable units. Other intangible assets are amortized principally by the straight-line method.

Depreciation, depletion, accretion and amortization expense for the years ended December 31 is outlined below:

<i>in millions</i>	2022	2021	2020
Depreciation, Depletion, Accretion and Amortization			
Depreciation	\$ 409.1	\$ 343.4	\$ 315.2
Depletion	50.2	31.2	21.0
Accretion	14.1	13.1	12.4
Amortization of finance leases	16.5	7.1	1.6
Amortization of intangibles	97.6	68.2	46.6
Total	\$ 587.5	\$ 463.0	\$ 396.8

DERIVATIVE INSTRUMENTS

During the normal course of operations, we are exposed to market risks including interest rates, foreign currency exchange rates and commodity prices. From time to time, and consistent with our risk management policies, we use derivative instruments to balance the cost and risk of such expenses. We do not use derivative instruments for trading or other speculative purposes.

The accounting for gains and losses that result from changes in the fair value of derivative instruments depends on whether the derivatives have been designated and qualify as hedging instruments and the type of hedging relationship. Changes in the fair value of interest rate swap fair value hedges are recorded as interest expense consistent with the change in the fair value of the hedged item attributable to the risk being hedged. Changes in the fair value of interest rate swap cash flow hedges are recorded in accumulated other comprehensive income (AOCI) and are reclassified into interest expense in the same period the hedged items affect earnings. We may also enter into contracts that qualify for the normal purchases and normal sales (NPNS) exception. When a contract meets the criteria to qualify as NPNS, we apply such exception. Income recognition and realization related to NPNS contracts generally coincide with the physical delivery of the commodity. For contracts qualifying for the NPNS exception, no recognition of the contract's fair value in the consolidated financial statements is required until settlement of the contract as long as the transaction remains probable of occurring.

For additional information about derivative instruments, see Note 5.

FAIR VALUE MEASUREMENTS

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value into three broad levels as described below:

Level 1: Quoted prices in active markets for identical assets or liabilities

Level 2: Inputs that are derived principally from or corroborated by observable market data

Level 3: Inputs that are unobservable and significant to the overall fair value measurement

Our assets at December 31 subject to fair value measurement on a recurring basis are summarized below:

<i>in millions</i>	<i>Level 1 Fair Value</i>	
	2022	2021
Fair Value Recurring		
Rabbi Trust		
Mutual funds	\$ 28.6	\$ 34.7
Total	\$ 28.6	\$ 34.7

<i>in millions</i>	<i>Level 2 Fair Value</i>	
	2022	2021
Fair Value Recurring		
Rabbi Trust		
Money market mutual fund	\$ 1.5	\$ 0.6
Total	\$ 1.5	\$ 0.6

We have two Rabbi Trusts for the purpose of providing a level of security for the employee nonqualified retirement and deferred compensation plans and for the directors' nonqualified deferred compensation plans. The fair values of these investments are estimated using a market approach. The Level 1 investments include mutual funds for which quoted prices in active markets are available. Level 2 investments are stated at estimated fair value based on the underlying investments in the fund (high-quality, short-term, U.S. dollar-denominated money market instruments).

Net gains (losses) of the Rabbi Trusts' investments were \$(4.8) million, \$6.1 million and \$4.5 million for the years ended December 31, 2022, 2021 and 2020, respectively. The portions of the net gains (losses) related to investments still held by the Rabbi Trusts at December 31, 2022, 2021 and 2020 were \$(5.2) million, \$5.3 million and \$4.1 million, respectively.

Interest rate swaps are measured at fair value using quoted market prices or pricing models that use prevailing market interest rates as of the measurement date. These interest rate swaps are more fully described in Note 5.

The carrying values of our cash equivalents, restricted cash, accounts and notes receivable, short-term debt, trade payables and accruals, and all other current liabilities approximate their fair values because of the short-term nature of these instruments. Additional disclosures for derivative instruments and interest-bearing debt are presented in Notes 5 and 6, respectively.

During the third quarter of 2022, net assets held for sale (our concrete operations in New Jersey, New York and Pennsylvania) with a carrying value of \$196.9 million were written down to their estimated fair value less cost to sell of \$180.0 million, resulting in an impairment loss of \$16.9 million (these net assets were subsequently sold during the fourth quarter resulting in an additional loss on sale of \$17.4 million). The estimated fair value was determined based on the expected proceeds from the probable sale of the disposal group. See below for a related goodwill impairment charge and Note 19 for additional discussion of the disposal of the net assets.

GOODWILL IMPAIRMENT

Goodwill represents the excess of the cost of net assets acquired in business combinations over the fair value of the identifiable tangible and intangible assets acquired and liabilities assumed in a business combination. Goodwill impairment exists when the fair value of a reporting unit is less than its carrying amount. As of December 31, 2022, goodwill totaled \$3,689.6 million as compared to \$3,696.7 million at December 31, 2021. Goodwill represents 26% of total assets at December 31, 2022 and 27% at December 31, 2021.

Goodwill is tested for impairment annually, as of November 1, or more frequently whenever events or changes in circumstances would more likely than not reduce the fair value of a reporting unit below its carrying amount. Goodwill is tested for impairment at the reporting unit level, one level below our operating segments. We have four operating segments organized around our principal product lines: Aggregates, Asphalt, Concrete and Calcium. Within these four operating segments, we have identified 17 reporting units (of which 12 carry goodwill) based primarily on geographic location. We have the option of either assessing qualitative factors to determine whether it is more likely than not that the carrying value of our reporting units exceeds their respective fair value or proceeding directly to a quantitative test. We elected to perform the quantitative impairment test for all years presented.

The quantitative impairment test compares the fair value of a reporting unit to its carrying value, including goodwill. If the fair value exceeds its carrying value, the goodwill of the reporting unit is not considered impaired. However, if the carrying value of a reporting unit exceeds its fair value, we recognize an impairment loss equal to that excess.

During the third quarter of 2022, we recorded an interim goodwill impairment loss of \$50.9 million resulting from the fourth quarter sale of a reporting unit comprised of concrete operations in New Jersey, New York and Pennsylvania (see Note 19 for additional information). There were no charges for goodwill impairment in the years ended December 31, 2021 or 2020.

The results of our annual impairment tests performed as of November 1, 2021 and 2020 indicated that the fair values of all reporting units with goodwill substantially exceeded (in excess of 100%) their carrying values. The results of our annual impairment test performed as of November 1, 2022 indicated that the fair values of all reporting units with goodwill exceeded their carrying values by approximately 10% to greater than 100%. The reporting units with the smallest excess of fair value versus carrying value include concrete operations acquired with U.S. Concrete in August 2021.

We estimate the fair values of the reporting units using both an income approach (which involves discounting estimated future cash flows) and a market approach (which involves the application of revenue and EBITDA multiples of comparable companies). Determining the fair value of our reporting units involves the use of significant estimates and assumptions and considerable management judgment. We base our fair value estimates on assumptions we believe to be reasonable at the time, but such assumptions are subject to inherent uncertainty and actual results may differ. Changes in key assumptions or management judgment with respect to a reporting unit or its prospects, which may result from a change in market conditions, market trends, interest rates or other factors outside of our control, or underperformance relative to historical or projected operating results, could result in a significantly different estimate of the fair value of our reporting units, which could result in an impairment charge in the future.

For additional information about goodwill, see Note 18.

IMPAIRMENT OF LONG-LIVED ASSETS EXCLUDING GOODWILL

We evaluate the carrying value of long-lived assets, including intangible assets subject to amortization, when events and circumstances indicate that the carrying value may not be recoverable. The carrying value of long-lived assets is considered impaired when the estimated undiscounted cash flows from such assets are less than their carrying value. In that event, we recognize a loss equal to the amount by which the carrying value exceeds the fair value. Fair value is determined primarily by using a discounted cash flow methodology that requires considerable judgment and assumptions. Our estimate of net future cash flows is based on historical experience and assumptions of future trends, which may be different from actual results. We periodically review the appropriateness of the estimated useful lives of our long-lived assets.

We test long-lived assets for impairment at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets. As a result, our long-lived asset impairment test is at a significantly lower level than the level at which we test goodwill for impairment. In markets where we do not produce downstream products (e.g., asphalt mix and ready-mixed concrete), the lowest level of largely independent identifiable cash flows is at the individual aggregates operation or a group of aggregates operations collectively serving a local market. Conversely, in vertically integrated markets, the cash flows of our downstream and upstream businesses are not largely independently identifiable as the selling price of the upstream products (aggregates) determines the profitability of the downstream business.

As of December 31, 2022, net property, plant & equipment represents 43% of total assets, while net other intangible assets represents 12% of total assets. As previously noted, during the third quarter of 2022, we recorded a \$16.9 million loss on impairment of long-lived assets resulting from the fourth quarter sale of concrete operations in New Jersey, New York and Pennsylvania (see Note 19 for divestiture information and Note 18 for a related goodwill impairment charge). During 2021 and 2020, we recorded no significant losses on impairment of long-lived assets.

For additional information about long-lived assets and intangible assets, see Notes 4 and 18, respectively.

REVENUES AND REVENUE RECOGNITION

Total revenues include sales of product and services to customers, net of any discounts and taxes, and freight and delivery revenues billed to customers. Freight and delivery generally represent pass-through transportation we incur (including our administrative costs) and pay to third-party carriers to deliver our products to customers. The cost related to freight and delivery is included in cost of revenues.

Revenues for product sales are recognized when control passes to the customer (typically occurs when finished products are shipped/delivered). Construction paving revenues are recognized using the percentage-of-completion method.

For additional information regarding revenues and revenue recognition, see Note 2.

STRIPPING COSTS

In the mining industry, the costs of removing overburden and waste materials to access mineral deposits are referred to as stripping costs.

Stripping costs incurred during the production phase are considered costs of extracted minerals under our inventory costing system, inventoried, and recognized in cost of sales in the same period as the revenue from the sale of the inventory. The production stage is deemed to begin when the activities, including removal of overburden and waste material that may contain incidental saleable material, required to access the saleable product are complete. Stripping costs considered as production costs and included in the costs of inventory produced were \$133.1 million in 2022, \$90.7 million in 2021 and \$90.4 million in 2020.

Conversely, stripping costs incurred during the development stage of a mine (pre-production stripping) are excluded from our inventory cost. Pre-production stripping costs are capitalized and reported within other noncurrent assets in our accompanying Consolidated Balance Sheets. Capitalized pre-production stripping costs are expensed over the productive life of the mine using the unit-of-sales method. Pre-production stripping costs included in other noncurrent assets were \$100.2 million as of December 31, 2022 and \$95.6 million as of December 31, 2021.

RECLAMATION COSTS

Reclamation costs resulting from normal use of long-lived assets are recognized over the period the asset is in use when there is a legal obligation to incur these costs upon retirement of the assets. Additionally, reclamation costs resulting from normal use under a mineral lease are recognized over the lease term when there is a legal obligation to incur these costs upon expiration of the lease. The obligation, which cannot be reduced by estimated offsetting cash flows, is recorded at fair value as a liability at the obligating event date and is accreted through charges to operating expenses. This fair value is also capitalized as part of the carrying amount of the underlying asset and depreciated over the estimated useful life of the asset. If the obligation is settled for other than the carrying amount of the liability, a gain or loss is recognized on settlement.

To determine the fair value of the obligation, we estimate the cost (including a reasonable profit margin) for a third party to perform the legally required reclamation tasks. This cost is then increased for both future estimated inflation and an estimated market risk premium related to the estimated years to settlement. Once calculated, this cost is discounted to fair value using present value techniques with a credit-adjusted, risk-free rate commensurate with the estimated years to settlement.

In estimating the settlement date, we evaluate the current facts and conditions to determine the most likely settlement date. If this evaluation identifies alternative estimated settlement dates, we use a weighted-average settlement date considering the probabilities of each alternative.

We review reclamation obligations at least annually for a revision to the cost or a change in the estimated settlement date. Additionally, reclamation obligations are reviewed in the period that a triggering event occurs that would result in either a revision to the cost or a change in the estimated settlement date. Examples of events that would trigger a change in the cost include a new reclamation law or amendment of an existing mineral lease. Examples of events that would trigger a change in the estimated settlement date include the acquisition of additional reserves or the closure of a facility.

The carrying value of these obligations was \$311.3 million as of December 31, 2022 and \$315.2 million as of December 31, 2021. For additional information about reclamation obligations (referred to in our financial statements as asset retirement obligations), see Note 17.

ENVIRONMENTAL COMPLIANCE

Our environmental compliance costs are undiscounted and include the cost of ongoing monitoring programs, the cost of remediation efforts and other similar costs. We accrue costs for environmental assessment and remediation efforts when we determine that a liability is probable and we can reasonably estimate the cost. At the early stages of a remediation effort, environmental remediation liabilities are not easily quantified due to the uncertainties of various factors. The range of an estimated remediation liability is defined and redefined as events in the remediation effort occur, but generally liabilities are recognized no later than the completion of the remedial feasibility study.

When we can estimate a range of probable loss, we accrue the most likely amount. If no amount in the range of probable loss is considered most likely, the minimum loss in the range is accrued. As of December 31, 2022, the spread between the amount accrued and the maximum loss in the range for all sites for which a range can be reasonably estimated was \$6.4 million — this amount does not represent our maximum exposure to loss for all environmental remediation obligations as it excludes those sites for which a range of loss cannot be reasonably estimated at this time. Accrual amounts may be based on technical cost estimations or the professional judgment of experienced environmental managers. Our Safety, Health and Environmental Affairs Management Committee routinely reviews cost estimates and key assumptions in response to new information, such as the kinds and quantities of hazardous substances, available technologies and changes to the parties participating in the remediation efforts. However, a number of factors, including adverse agency rulings and encountering unanticipated conditions as remediation efforts progress, may cause actual results to differ materially from accrued costs.

For additional information about environmental compliance costs, see Note 8.

CLAIMS AND LITIGATION INCLUDING SELF-INSURANCE

We are involved with claims and litigation, including items covered under our self-insurance program. We are self-insured for losses related to workers' compensation up to \$2.0 million per occurrence and automotive and general/product liability up to \$10.0 million per occurrence. We have excess coverage on a per occurrence basis beyond these retention levels. Under our self-insurance program, we aggregate certain claims and litigation costs that are reasonably predictable based on our historical loss experience and accrue losses, including future legal defense costs, based on actuarial studies. Certain claims and litigation costs, due to their unique nature, are not included in our actuarial studies. We use both internal and outside legal counsel to assess the probability of loss and establish an accrual when the claims and litigation represent a probable loss and the cost can be reasonably estimated. For matters not included in our actuarial studies, legal defense costs are accrued when incurred. The following table outlines our self-insurance program at December 31:

<i>dollars in millions</i>	2022	2021
Self-insurance Program		
Self-insured liabilities (undiscounted)	\$ 146.7	\$ 137.7
Insured liabilities (undiscounted)	2.3	3.6
Discount rate	4.20%	1.10%
Amounts Recognized in Consolidated Balance Sheets		
Other accounts and notes receivable	\$ 0.0	\$ 0.0
Investments and long-term receivables	2.3	3.4
Other current liabilities	(51.4)	(50.7)
Other noncurrent liabilities	(81.7)	(83.2)
Net insurance liabilities (discounted)	\$ (130.8)	\$ (130.5)

Estimated payments (undiscounted and excluding the impact of related receivables) under our self-insurance program for the five years subsequent to December 31, 2022 are as follows:

<i>in millions</i>	
Estimated Payments under Self-insurance Program	
2023	\$ 55.2
2024	30.6
2025	19.8
2026	11.5
2027	6.2

Significant judgment is used in determining the timing and amount of the accruals for probable losses, and the actual liability could differ materially from the accrued amounts.

For additional information about claims and litigation, see Note 12 under the caption Litigation and Environmental Matters.

SHARE-BASED COMPENSATION

All of our share-based compensation awards are classified as equity awards. We measure share-based compensation awards using fair-value-based measurement methods. This results in the recognition of compensation expense for all share-based compensation awards based on their fair value as of the grant date with adjustments for performance, as applicable. Compensation cost is recognized over the requisite service period. Forfeitures are recognized as they occur.

A summary of the estimated future compensation cost (unrecognized compensation expense) as of December 31, 2022 related to share-based awards granted to employees under our long-term incentive plans is presented below:

<i>dollars in millions</i>	<i>Unrecognized Compensation Expense</i>	<i>Expected Weighted-average Recognition (Years)</i>
Share-based Compensation		
SOSARs ¹	\$ 1.4	1.4
Performance shares	12.5	1.7
Restricted shares	9.6	1.8
Total/weighted-average	\$ 23.5	1.7

¹ Stock-Only Stock Appreciation Rights (SOSARs)

Pretax compensation expense related to our employee share-based compensation awards and related income tax benefits for the years ended December 31 are summarized below:

<i>in millions</i>	2022	2021	2020
Employee Share-based Compensation Awards			
Pretax compensation expense	\$ 38.7	\$ 32.5	\$ 31.4
Income tax benefits	6.9	4.7	5.0

We receive an income tax deduction for share-based compensation equal to the excess of the market value of our common stock on the date of exercise or issuance over the exercise price. Tax benefits resulting from tax deductions in excess of the compensation cost recognized (excess tax benefits) are reflected as discrete income tax benefits in the period of exercise or issuance.

For additional information about share-based compensation, see Note 11 under the caption Share-based Compensation Plans.

PENSION AND OTHER POSTRETIREMENT BENEFITS

Accounting for pension and other postretirement benefits requires that we use assumptions for the valuation of projected benefit obligations (PBO) and the performance of plan assets. Each year, we review our assumptions for discount rates (used for PBO, service cost, and interest cost calculations), expected return on plan assets and the cost of covered healthcare benefits. Due to plan changes made in 2013, annual pay increases do not materially impact plan obligations.

- **DISCOUNT RATES** — We use a high-quality bond full yield curve approach (specific spot rates for each annual expected cash flow) to establish the discount rates at each measurement date.
- **EXPECTED RETURN ON PLAN ASSETS** — Our expected return on plan assets is: (1) a long-term view based on our current asset allocation, and (2) a judgment informed by consultation with our retirement plans' consultant and our pension plans' actuary.
- **RATE OF INCREASE IN THE PER CAPITA COST OF COVERED HEALTHCARE BENEFITS** — We project the expected increases in the cost of covered healthcare benefits.

Accounting standards provide for the delayed recognition of differences between actual results and expected or estimated results. This delayed recognition of actual results allows for a smoothed recognition in earnings of changes in benefit obligations and asset performance. The differences between actual results and expected or estimated results are recognized in full in other comprehensive income. Amounts recognized in other comprehensive income are reclassified to earnings in a systematic manner over the average remaining service period of participants for our active plans or the average remaining lifetime of participants for our inactive plans.

We present the service cost component of net periodic benefit cost in cost of revenues and selling, administrative and general expense consistent with employee compensation costs. The other components of net periodic benefit cost are reported within other nonoperating income in our accompanying Consolidated Statements of Comprehensive Income.

For additional information about pension and other postretirement benefits, see Note 10.

INCOME TAXES

We file federal, state and foreign income tax returns and account for the current and deferred tax effects of such returns using the asset and liability method. We recognize deferred tax assets and liabilities (which reflect our best assessment of the future taxes we will pay) based on the differences between the book basis and tax basis of assets and liabilities. Deferred tax assets represent items to be used as a tax deduction or credit in future tax returns while deferred tax liabilities represent items that will result in additional tax in future tax returns.

Significant judgments and estimates are required in determining our deferred tax assets and liabilities. These estimates are updated throughout the year to consider income tax return filings, our geographic mix of earnings, legislative changes and other relevant items. We are required to account for the effects of changes in income tax rates on deferred tax balances in the period in which the legislation is enacted.

Each quarter we analyze the likelihood that our deferred tax assets will be realized. Realization of the deferred tax assets ultimately depends on the existence of sufficient taxable income of the appropriate character in either the carryback or carryforward period. A valuation allowance is recorded if, based on the weight of all available positive and negative evidence, it is more likely than not (a likelihood of more than 50%) that some portion, or all, of a deferred tax asset will not be realized. A summary of our deferred tax assets is included in Note 9.

We recognize a tax benefit associated with a tax position when, in our judgment, it is more likely than not that the position will be sustained based upon the technical merits of the position. For a tax position that meets the more likely than not recognition threshold, we measure the income tax benefit as the largest amount that we judge to have a greater than 50% likelihood of being realized. A liability is established for the unrecognized portion of any tax position. Our liability for unrecognized tax benefits is adjusted periodically due to changing circumstances, such as the progress of tax audits, case law developments and new or emerging legislation.

Generally, we are not subject to significant changes in income taxes by any taxing jurisdiction for the years before 2019. While it is often difficult to predict the final outcome or the timing of resolution of any particular tax matter, we believe our liability for unrecognized tax benefits is appropriate.

We consider a tax position to be resolved at the earlier of the issue being "effectively settled," settlement of an examination, or the expiration of the statute of limitations. Upon resolution of a tax position, any liability for unrecognized tax benefits will be released.

Our liability for unrecognized tax benefits is generally presented as noncurrent. However, if we anticipate paying cash within one year to settle an uncertain tax position, the liability is presented as current. We classify interest and penalties associated with our liability for unrecognized tax benefits as income tax expense.

Our largest permanent item in computing both our taxable income and effective tax rate is the deduction allowed for statutory depletion. The impact of statutory depletion on the effective tax rate is presented in Note 9. The deduction for statutory depletion does not necessarily change proportionately to changes in pretax earnings.

COMPREHENSIVE INCOME

We report comprehensive income in our Consolidated Statements of Comprehensive Income and Consolidated Statements of Equity. Comprehensive income comprises two subsets: net earnings and other comprehensive income (OCI). OCI includes adjustments to cash flow hedges, as well as actuarial gains or losses and prior service costs related to pension and postretirement benefit plans.

For additional information about comprehensive income, see Note 14.

EARNINGS PER SHARE (EPS)

Earnings per share are computed by dividing net earnings by the weighted-average common shares outstanding (basic EPS) or weighted-average common shares outstanding assuming dilution (diluted EPS), as set forth below:

<i>in millions</i>	2022	<i>2021</i>	<i>2020</i>
Weighted-average common shares outstanding	133.0	132.8	132.6
Dilutive effect of			
SOSARs	0.2	0.3	0.3
Other stock compensation awards	0.4	0.4	0.3
Weighted-average common shares outstanding, assuming dilution	133.6	133.5	133.2

All dilutive common stock equivalents are reflected in our earnings per share calculations. In periods of loss, shares that otherwise would have been included in our diluted weighted-average common shares outstanding computation would be excluded.

Antidilutive common stock equivalents are not included in our earnings per share calculations. The number of antidilutive common stock equivalents for which the exercise price exceeds the weighted-average market price for the years ended December 31 is as follows:

<i>in millions</i>	2022	<i>2021</i>	<i>2020</i>
Antidilutive common stock equivalents	0.1	0.0	0.1

RECLASSIFICATIONS

Certain items previously reported in specific financial statement captions have been reclassified to conform to the 2022 presentation. Such reclassifications had no impact on our prior results of operations, financial position or cash flows.

NEW ACCOUNTING STANDARDS

ACCOUNTING STANDARDS RECENTLY ADOPTED

None

ACCOUNTING STANDARDS PENDING ADOPTION

None

NOTE 2: REVENUES

Revenues are measured as the amount of consideration we expect to receive in exchange for transferring goods or providing services. Sales and other taxes we collect are recorded as liabilities until remitted and thus are excluded from revenues. Costs to obtain and fulfill contracts (primarily asphalt construction paving contracts) are immaterial and are expensed as incurred when the expected amortization period is one year or less.

Total revenues are primarily derived from our product sales of aggregates (crushed stone, sand and gravel, sand and other aggregates), asphalt mix and ready-mixed concrete, and include freight & delivery costs that we pass along to our customers to deliver these products. We also generate service revenues from our asphalt construction paving business and service revenues related to our aggregates business, such as landfill tipping fees. Our total service revenues were as follows: 2022 — \$233.1 million (3.2% of total revenues), 2021 — \$221.4 million (4.0% of total revenues) and 2020 — \$214.3 million (4.4% of total revenues).

Our products typically are sold to private industry and not directly to governmental entities. Although approximately 45% to 55% of our aggregates shipments have historically been used in publicly-funded construction (such as highways, airports and government buildings), relatively insignificant sales are made directly to federal, state, county or municipal governments/agencies. Therefore, although reductions in state and federal funding can curtail publicly-funded construction, the vast majority of our aggregates business is not directly subject to renegotiation of profits or termination of contracts with state or federal governments.

Our segment total revenues by geographic market for the years ended December 31, 2022, 2021 and 2020 are disaggregated as follows:

For the Year Ended December 31, 2022					
<i>in millions</i>	<i>Aggregates</i>	<i>Asphalt</i>	<i>Concrete</i>	<i>Calcium</i>	<i>Total</i>
Total Revenues by Geographic Market ¹					
East	\$ 1,508.2	\$ 177.3	\$ 694.2	\$ 0.0	\$ 2,379.7
Gulf Coast	2,933.0	211.2	551.9	7.8	3,703.9
West	831.6	601.7	347.8	0.0	1,781.1
Segment sales	\$ 5,272.8	\$ 990.2	\$ 1,593.9	\$ 7.8	\$ 7,864.7
Intersegment sales	(549.5)	0.0	0.0	0.0	(549.5)
Total revenues	\$ 4,723.3	\$ 990.2	\$ 1,593.9	\$ 7.8	\$ 7,315.2

For the Year Ended December 31, 2021					
<i>in millions</i>	<i>Aggregates</i>	<i>Asphalt</i>	<i>Concrete</i>	<i>Calcium</i>	<i>Total</i>
Total Revenues by Geographic Market ¹					
East	\$ 1,326.6	\$ 142.4	\$ 389.9	\$ 0.0	\$ 1,858.9
Gulf Coast	2,390.7	179.6	243.5	6.9	2,820.7
West	627.7	455.8	133.4	0.0	1,216.9
Segment sales	\$ 4,345.0	\$ 777.8	\$ 766.8	\$ 6.9	\$ 5,896.5
Intersegment sales	(344.3)	0.0	0.0	0.0	(344.3)
Total revenues	\$ 4,000.7	\$ 777.8	\$ 766.8	\$ 6.9	\$ 5,552.2

For the Year Ended December 31, 2020					
<i>in millions</i>	<i>Aggregates</i>	<i>Asphalt</i>	<i>Concrete</i>	<i>Calcium</i>	<i>Total</i>
Total Revenues by Geographic Market ¹					
East	\$ 1,198.1	\$ 142.2	\$ 263.7	\$ 0.0	\$ 1,604.0
Gulf Coast	2,165.2	178.5	71.1	7.7	2,422.5
West	581.0	471.9	48.8	0.0	1,101.7
Segment sales	\$ 3,944.3	\$ 792.6	\$ 383.6	\$ 7.7	\$ 5,128.2
Intersegment sales	(271.4)	0.0	0.0	0.0	(271.4)
Total revenues	\$ 3,672.9	\$ 792.6	\$ 383.6	\$ 7.7	\$ 4,856.8

¹ The geographic markets are defined by states as follows:

East market — Arkansas, Delaware, Illinois, Kentucky, Maryland, New Jersey, New York, North Carolina, Pennsylvania, Tennessee, Virginia, and Washington D.C.

Gulf Coast market — Alabama, Florida, Georgia, Louisiana, Mississippi, Oklahoma, South Carolina, Texas, U.S. Virgin Islands, Freeport (Bahamas), Puerto Cortés (Honduras) and Quintana Roo (Mexico)

West market — Arizona, California, Hawaii, New Mexico and British Columbia (Canada)

PRODUCT REVENUES

Revenue is recognized when obligations under the terms of a contract with our customer are satisfied; generally, this occurs at a point in time when our aggregates, asphalt mix and ready-mixed concrete are shipped/delivered and control passes to the customer. Revenue for our products is recorded at the fixed invoice amount, and payment is due by the 15th day of the following month — we do not offer discounts for early payment.

Freight & delivery generally represents pass-through transportation we incur (including our administrative costs) and pay to third-party carriers to deliver our products to customers and are accounted for as a fulfillment activity. Likewise, the costs related to freight & delivery are included in cost of revenues.

Freight & delivery revenues are as follows:

<i>in millions</i>	2022	2021	2020
Freight & Delivery Revenues			
Total revenues	\$ 7,315.2	\$ 5,552.2	\$ 4,856.8
Freight & delivery revenues ¹	(960.3)	(768.3)	(738.5)
Total revenues excluding freight & delivery	\$ 6,354.9	\$ 4,783.9	\$ 4,118.3

¹ Includes freight & delivery to remote distribution sites.

CONSTRUCTION PAVING SERVICE REVENUES

Revenue from our asphalt construction paving business is recognized over time using the percentage-of-completion method under the cost approach. The percentage of completion is determined by costs incurred to date as a percentage of total costs estimated for the project. Under this approach, recognized contract revenue equals the total estimated contract revenue multiplied by the percentage of completion. Future revenues from unsatisfied performance obligations (including contracts with an expected duration of 1 year or less) at December 31, 2022, 2021 and 2020 were \$112.3 million, \$133.8 million and \$125.7 million, respectively. The remaining period to complete the 2022 obligations ranged from 1 month to 56 months.

Our construction contracts are unit priced, and an account receivable is recorded for amounts invoiced based on actual units produced. Contract assets for estimated earnings in excess of billings, contract assets related to retainage provisions and contract liabilities for billings in excess of costs are immaterial. Variable consideration in our construction paving contracts is immaterial and consists of incentives and penalties based on the quality of work performed. Our construction paving contracts may contain warranty provisions covering defects in equipment, materials, design or workmanship that generally run from nine months to one year after project completion. Due to the nature of our construction paving projects, including contract owner inspections of the work during construction and prior to acceptance, we have not experienced material warranty costs for these short-term warranties.

VOLUMETRIC PRODUCTION PAYMENT DEFERRED REVENUES

In 2013 and 2012, we sold a percentage interest in certain future aggregates production for net cash proceeds of \$226.9 million. These transactions, structured as volumetric production payments (VPPs):

- relate to eight quarries in Georgia and South Carolina
- provide the purchaser solely with a nonoperating percentage interest in the subject quarries' future aggregates production
- contain no minimum annual or cumulative guarantees by us for production or sales volume, nor minimum sales price
- are both volume and time limited (we expect the transactions will last approximately 20 years, limited by volume rather than time)

We are the exclusive sales agent for, and transmit quarterly to the purchaser the proceeds from the sale of, the purchaser's share of aggregates production. Our consolidated total revenues exclude the revenue from the sale of the purchaser's share of aggregates.

The proceeds we received from the sale of the percentage interest were recorded as deferred revenue on the balance sheet. We recognize revenue on a unit-of-sales basis (as we sell the purchaser's share of production) relative to the volume limitations of the transactions. Given the nature of the risks and potential rewards assumed by the buyer, the transactions do not reflect financing activities.

Changes in the VPP deferred revenue balances (current and noncurrent) are as follows:

<i>in millions</i>	2022	2021	2020
Deferred Revenue			
Balance at beginning of year	\$ 170.1	\$ 178.0	\$ 185.3
Revenue recognized from deferred revenue	(8.3)	(7.9)	(7.3)
Balance at end of year	\$ 161.8	\$ 170.1	\$ 178.0

Based on expected sales from the specified quarries, we expect to recognize \$7.5 million of VPP deferred revenue as income in 2023 (reflected in other current liabilities in our December 31, 2022 Consolidated Balance Sheet).

NOTE 3: INVENTORIES

Inventories at December 31 are as follows:

<i>in millions</i>	2022	2021
Inventories		
Finished products ¹	\$ 439.3	\$ 418.0
Raw materials	63.4	59.9
Products in process	6.0	4.2
Operating supplies and other	70.6	39.2
Total	\$ 579.3	\$ 521.3

¹ Includes inventories encumbered by volumetric production payments (see Note 2), as follows: December 31, 2022 — \$3.6 million; December 31, 2021 — \$2.8 million.

In addition to the inventory balances presented above, as of December 31, 2022 and December 31, 2021, we had \$8.8 million and \$8.5 million, respectively, of inventory classified as long-term assets (other noncurrent assets) as we do not expect to sell the inventory within one year of their respective balance sheet dates.

We use the LIFO method of valuation for most of our inventories as it results in a better matching of costs with revenues. Inventories valued under the LIFO method total \$295.1 million at December 31, 2022 and \$290.2 million at December 31, 2021. During 2022, 2021 and 2020, inventory reductions resulted in liquidations of LIFO inventory layers carried at costs prevailing in prior years as compared to current-year costs. The effect of the LIFO liquidation on 2022 results was to decrease cost of revenues by \$4.8 million and increase net earnings by \$3.5 million. The effect of the LIFO liquidation on 2021 results was to decrease cost of revenues by \$0.6 million and increase net earnings by \$0.4 million. The effect of the LIFO liquidation on 2020 results was to decrease cost of revenues by \$0.9 million and increase net earnings by \$0.6 million.

Estimated current cost exceeded LIFO cost at December 31, 2022 and 2021 by \$264.7 million and \$199.7 million, respectively. In periods of increasing costs, LIFO generally results in higher cost of revenues than under FIFO. In periods of decreasing costs, the results are generally the opposite. We provide supplemental income disclosures to facilitate comparisons with companies not on LIFO. The supplemental income calculation is derived by tax-affecting the change in the LIFO reserve for the periods presented. If all inventories valued at LIFO cost had been valued under first-in, first-out (FIFO) method, the approximate effect on net earnings would have been an increase of \$48.1 million in 2022, an increase of \$5.3 million in 2021 and an increase of \$7.3 million in 2020.

NOTE 4: PROPERTY, PLANT & EQUIPMENT

Balances of major classes of assets and allowances for depreciation, depletion and amortization at December 31 are as follows:

<i>in millions</i>	2022	2021
Property, Plant & Equipment		
Land and land improvements ¹	\$ 3,991.1	\$ 3,631.7
Buildings	223.3	182.9
Machinery and equipment	6,454.2	6,109.2
Finance leases (see Note 7)	93.2	36.3
Deferred asset retirement costs	165.9	182.5
Construction in progress	378.7	301.8
Total, gross	\$ 11,306.4	\$ 10,444.4
Less allowances for depreciation, depletion and amortization	5,255.1	4,897.6
Total, net	\$ 6,051.3	\$ 5,546.8

¹ Includes depletable land as follows: December 31, 2022 — \$2,445.6 million and December 31, 2021 — \$2,238.4 million.

Capitalized interest costs with respect to qualifying construction projects and total interest costs incurred before recognition of the capitalized amount for the years ended December 31 are as follows:

<i>in millions</i>	2022	2021	2020
Capitalized interest cost	\$ 3.6	\$ 4.2	\$ 3.5
Total interest cost incurred before recognition of the capitalized amount	172.8	153.5	139.5

Capitalized software costs of \$10.1 million and \$14.7 million (including \$13.2 million of capitalized software obtained via the U.S. Concrete acquisition) are reflected in net property, plant & equipment as of December 31, 2022 and 2021, respectively. We capitalized software costs for the years ended December 31 as follows: 2022 — \$2.7 million, 2021 — \$2.7 million and 2020 — \$1.1 million.

NOTE 5: DERIVATIVE INSTRUMENTS

During the normal course of operations, we are exposed to market risks including interest rates, foreign currency exchange rates and commodity prices. From time to time, we use derivative instruments to balance the cost and risk of such expenses. We do not use derivative instruments for trading or other speculative purposes.

In 2007, 2018 and 2020, we entered into interest rate locks of future debt issuances to hedge the risk of higher interest rates. These interest rate locks were designated as cash flow hedges. The gain/loss upon settlement of these cash flow hedges is deferred (recorded in accumulated other comprehensive income (AOCI)) and amortized to interest expense over the term of the related debt.

This amortization was reflected in the accompanying Consolidated Statements of Comprehensive Income for the years ended December 31 as follows:

<i>in millions</i>	<i>Location on Statement</i>	2022	2021	2020
Cash Flow Hedges				
Loss reclassified from AOCI	Interest expense	\$ (2.0)	\$ (2.0)	\$ (2.3)

For the twelve-month period ending December 31, 2023, we estimate that \$2.1 million of the \$21.0 million net of tax loss in AOCI will be reclassified to interest expense.

NOTE 6: DEBT

Debt at December 31 is detailed as follows:

<i>in millions</i>	<i>Effective Interest Rates</i>	2022	2021
Short-term Debt			
Bank line of credit expires 2027 ¹		\$ 100.0	\$ 0.0
Commercial paper expires 2027 ¹		0.0	0.0
Total short-term debt		\$ 100.0	\$ 0.0
Long-term Debt			
Bank line of credit expires 2027 ¹		\$ 0.0	\$ 0.0
Commercial paper expires 2027 ¹		550.0	0.0
Delayed draw term loan due 2026		550.0	1,100.0
4.50% notes due 2025	4.65%	400.0	400.0
3.90% notes due 2027	4.00%	400.0	400.0
3.50% notes due 2030	3.94%	750.0	750.0
7.15% notes due 2037	8.05%	129.2	129.2
4.50% notes due 2047	4.59%	700.0	700.0
4.70% notes due 2048	5.42%	460.9	460.9
Other notes	0.37%	1.8	9.5
Total long-term debt - face value		\$ 3,941.9	\$ 3,949.6
Unamortized discounts and debt issuance costs		(66.2)	(69.6)
Total long-term debt - book value		\$ 3,875.7	\$ 3,880.0
Less current maturities		0.5	5.2
Total long-term debt - reported value		\$ 3,875.2	\$ 3,874.8
Estimated fair value of long-term debt		\$ 3,671.9	\$ 4,418.5

¹ Borrowings on the bank line of credit and commercial paper are classified as short-term if we intend to repay within twelve months and as long-term if we have the intent and ability to extend payment beyond twelve months.

Discounts and debt issuance costs are amortized using the effective interest method over the terms of the respective notes resulting in \$6.1 million and \$13.9 million of net interest expense for these items for 2022 and 2021, respectively.

DELAYED DRAW TERM LOAN, LINE OF CREDIT AND COMMERCIAL PAPER PROGRAM

In June 2021, concurrent with the announcement of the pending acquisition of U.S. Concrete (see Note 19 for additional information), we obtained a \$2,200.0 million bridge facility commitment from Truist Bank. Later in June 2021, we entered into a \$1,600.0 million unsecured delayed draw term loan with a subset of the banks that provide our line of credit and terminated the bridge facility commitment. The delayed draw term loan was drawn in August 2021 for \$1,600.0 million upon the acquisition of U.S. Concrete, was paid down to \$1,100.0 million in September 2021 and was further paid down to \$550.0 million in August 2022 (amounts repaid are no longer available for borrowing). In March 2022, the delayed draw term loan was amended to extend the maturity date from August 2024 to August 2026. The delayed draw term loan contains covenants customary for an unsecured investment-grade facility and mirror those in our line of credit. As of December 31, 2022, we were in compliance with the delayed draw term loan covenants.

Financing costs for the bridge facility commitment and the delayed draw term loan totaled \$13.3 million, \$9.4 million of which was recognized as interest expense in 2021. Borrowings on the delayed draw term loan bear interest, at our option, at either the Secured Overnight Financing Rate (SOFR) plus a margin ranging from 0.075% to 1.250% or Truist Bank's base rate (generally, its prime rate) plus a margin ranging from 0.000% to 0.250%. The margins are determined by our credit ratings. As of December 31, 2022, the margin for SOFR borrowings was 0.875%, and the margin for base rate borrowings was 0.000%.

Our unsecured line of credit was amended in March 2022 to extend the maturity date from September 2025 to September 2026. It was further amended in August 2022 to increase the borrowing capacity from \$1,000.0 million to \$1,600.0 million and extend the maturity date from September 2026 to August 2027. Our line of credit contains covenants customary for an unsecured investment-grade facility. As of December 31, 2022, we were in compliance with the line of credit covenants.

Borrowings on the line of credit bear interest, at our option, at either SOFR plus a margin ranging from 1.000% to 1.625% or Truist Bank's base rate (generally, its prime rate) plus a margin ranging from 0.000% to 0.625%. The margins are determined by our credit ratings. Standby letters of credit, which are issued under the line of credit and reduce availability, are charged a fee equal to the margin for SOFR borrowings plus 0.175%. We also pay a commitment fee on the daily average unused amount of the line of credit that ranges from 0.090% to 0.225% determined by our credit ratings. As of December 31, 2022, the margin for SOFR borrowings was 1.125%, the margin for base rate borrowings was 0.125%, and the commitment fee for the unused amount was 0.100%.

In August 2022, we established a \$1,600.0 million commercial paper program through which we borrowed \$550.0 million that was used to partially repay the delayed draw term loan. Commercial paper borrowings bear interest at rates determined at the time of borrowing and as agreed between us and the commercial paper investors.

As of December 31, 2022, our available borrowing capacity under the line of credit was \$1,421.4 million. Utilization of the borrowing capacity was as follows:

- \$100.0 million was borrowed
- \$78.6 million was used to support standby letters of credit

TERM DEBT

Essentially all of our \$3,941.9 million (face value) of term debt (which includes the \$550.0 million delayed draw term loan and the \$550.0 million commercial paper) is unsecured. All of the covenants in the debt agreements are customary for investment-grade facilities. As of December 31, 2022, we were in compliance with all term debt covenants.

In connection with the August 2021 acquisition of U.S. Concrete, we assumed \$434.5 million (fair value) of senior notes due 2029 and retired these notes in September 2021.

The total scheduled (principal and interest) debt payments, excluding the line of credit, for the five years subsequent to December 31, 2022 are as follows:

<i>in millions</i>	<i>Total</i>	<i>Principal</i>	<i>Interest</i>
Scheduled Debt Payments (excluding the line of credit)			
2023	\$ 184.6	\$ 0.5	\$ 184.1
2024	182.1	0.5	181.6
2025	561.7	400.5	161.2
2026	689.8	550.4	139.4
2027	1,059.6	950.0	109.6

STANDBY LETTERS OF CREDIT

We provide, in the normal course of business, certain third-party beneficiaries with standby letters of credit to support our obligations to pay or perform according to the requirements of an underlying agreement. Such letters of credit typically have an initial term of one year, typically renew automatically, and can only be modified or canceled with the approval of the beneficiary. Our standby letters of credit are issued by banks that participate in our \$1,600.0 million line of credit and reduce the borrowing capacity thereunder. Our standby letters of credit as of December 31, 2022 are summarized by purpose in the table below:

<i>in millions</i>	
Standby Letters of Credit	
Risk management insurance	\$ 71.5
Reclamation/restoration requirements	7.1
Total	\$ 78.6

NOTE 7: LEASES

Our portfolio of nonmineral leases is composed of leases for real estate (including office buildings, aggregates sales yards and terminals, and concrete and asphalt sites) and equipment (including railcars and rail track, barges, and office, plant and mobile equipment).

Lease right-of-use (ROU) assets and liabilities reflected on our December 31 balance sheets and the weighted-average lease term and discount rate are as follows:

<i>dollars in millions</i>	<i>Classification on the Balance Sheet</i>	2022	2021
Assets			
Operating lease ROU assets		\$ 665.4	\$ 771.1
Accumulated amortization		(92.8)	(79.7)
Operating leases, net	Operating lease right-of-use assets, net	572.6	691.4
Finance lease assets		93.2	129.2
Accumulated depreciation		(14.9)	(8.8)
Finance leases, net	Property, plant & equipment, net	78.3	120.4
Total lease assets		\$ 650.9	\$ 811.8
Liabilities			
Current			
Operating	Other current liabilities	\$ 48.1	\$ 49.2
Finance	Other current liabilities	22.3	35.4
Noncurrent			
Operating	Noncurrent operating lease liabilities	548.4	642.5
Finance	Other noncurrent liabilities	34.8	60.5
Total lease liabilities		\$ 653.6	\$ 787.6
Lease Term and Discount Rate			
Weighted-average remaining lease term (years)			
Operating leases		19.7	21.0
Finance leases		3.0	3.3
Weighted-average discount rate			
Operating leases		3.9%	3.8%
Finance leases		1.8%	1.3%

The decreases in ROU assets and liabilities presented above primarily relate to the fourth quarter sale of concrete operations in New Jersey, New York and Pennsylvania (see Note 19 for additional information). Our lease agreements do not contain residual value guarantees, restrictive covenants or early termination options that we deem material.

Our building leases have remaining noncancelable periods of 0 - 16 years and lease terms (including options to extend) of 0 - 24 years. Key factors in determining the certainty of lease renewals include the location of the building, the value of leasehold improvements and the cost to relocate. Rental payments for certain of our building leases are periodically adjusted for inflation, and this variable component is recognized as expense when incurred. Many of our building leases contain common area maintenance charges which we include in the calculation of our lease liability (the lease consideration is not allocated between the lease and non-lease components).

Our aggregates sales yard leases have remaining noncancelable periods of 0 - 26 years and lease terms of 0 - 76 years. The key factor in determining the certainty of lease renewals is the financial impact of extending the lease, including the reserve life of the sourcing aggregates quarry. Certain aggregates sales yard lease agreements include rental payments based on a percentage of sales over contractual levels or the number of shipments received into the sales yard. Variable payments for these sales yards comprise a majority of the overall variable lease cost presented in the table below.

Our concrete and asphalt site leases have remaining noncancelable periods of 0 - 17 years and lease terms of 0 - 76 years. The key factor in determining the certainty of lease renewals is the financial impact of extending the lease, including the reserve life of the sourcing aggregates quarry. Rental payments are generally fixed for our concrete and asphalt sites.

Our rail (car and track) leases have remaining noncancelable periods of 0 - 5 years and lease terms of 0 - 62 years. Key factors in determining the certainty of lease renewals include the market rental rate for comparable assets and, in some cases, the cost incurred to restore the asset. Rental payments are fixed for our rail leases. The majority of our rail leases contain substitution rights that allow the supplier to replace damaged equipment. Because these rights are generally limited to either replacing railcars or moving our placement on rail track for purposes of repair or maintenance, we do not consider these substitution rights to be substantive and have recorded a lease liability and ROU asset for all leased rail.

Our barge leases have remaining noncancelable periods of 5 - 6 years and lease terms of 12 - 20 years. Key factors in determining the certainty of lease renewals include the market rental rate for comparable assets and, in some cases, the cost incurred to restore the asset. Rental payments are fixed. Like our rail leases, our barge leases contain non-substantive substitution rights that are limited to replacing barges in need of repair or maintenance.

Office, plant and mobile equipment leases have remaining noncancelable periods of 0 - 5 years and lease terms of 0 - 6 years. The key factor in determining the certainty of lease renewals is the market rental rate for comparable assets. Rental payments are generally fixed for our equipment leases with terms greater than 1 year. The significant majority of our short-term lease cost presented in the table below is derived from office and plant equipment leases with terms of 1 year or less.

The components of lease expense for the years ended December 31, 2022, 2021 and 2020 are as follows:

<i>in millions</i>	2022	2021	2020
Lease Cost			
Finance lease cost			
Depreciation of right-of-use assets	\$ 16.5	\$ 7.1	\$ 1.6
Interest on lease liabilities	1.2	0.6	(0.1)
Operating lease cost	85.6	71.0	58.5
Short-term lease cost ¹	46.4	27.3	30.5
Variable lease cost	14.4	10.6	12.9
Sublease income	(2.9)	(3.1)	(2.7)
Total lease cost	\$ 161.2	\$ 113.5	\$ 100.7

¹ Our short-term lease cost includes the cost of leases with an initial term of one year or less (including those with terms of one month or less).

Cash paid for operating leases was \$78.6 million for 2022 and \$64.4 million for 2021. Cash paid for finance leases (principal and interest) was \$35.0 million for 2022 and \$14.0 million for 2021.

Maturity analysis on an undiscounted basis of our lease liabilities (see Note 12 for mineral lease payments) as of December 31, 2022 is as follows:

<i>in millions</i>	Operating Leases	Finance Leases
Maturity of Lease Liabilities		
2023	\$ 70.0	\$ 23.2
2024	65.3	17.3
2025	60.9	11.8
2026	54.7	5.9
2027	50.5	0.6
Thereafter	658.3	0.0
Total minimum lease payments	\$ 959.7	\$ 58.8
Less: Lease payments representing interest	363.2	1.7
Present value of future minimum lease payments	\$ 596.5	\$ 57.1
Less: Current obligations under leases	48.1	22.3
Long-term lease obligations	\$ 548.4	\$ 34.8

NOTE 8: ACCRUED ENVIRONMENTAL REMEDIATION COSTS

Our Consolidated Balance Sheets as of December 31 include accrued environmental remediation costs (measured on an undiscounted basis) as follows:

<i>in millions</i>	2022	2021
Accrued Environmental Remediation Costs		
Continuing operations	\$ 28.6	\$ 23.2
Retained from former Chemicals business	8.3	10.7
Total	\$ 36.9	\$ 33.9

The long-term portion of the accruals noted above is included in other noncurrent liabilities in the accompanying Consolidated Balance Sheets and amounted to \$14.9 million at December 31, 2022 and \$15.9 million at December 31, 2021. The short-term portion of these accruals is included in other current liabilities in the accompanying Consolidated Balance Sheets.

The accrued environmental remediation costs in continuing operations relate primarily to the former U.S. Concrete, Florida Rock, Tarmac, and CalMat facilities acquired in 2021, 2007, 2000 and 1999, respectively. The balances noted above for the former Chemicals business relate to retained environmental remediation costs from the 2003 sale of the Performance Chemicals business and the 2005 sale of the Chloralkali business. Refer to Note 12 for additional discussion of contingent environmental matters.

NOTE 9: INCOME TAXES

The components of earnings from continuing operations before income taxes are as follows:

<i>in millions</i>	2022	2021	2020
Earnings from Continuing Operations before Income Taxes			
Domestic	\$ 788.7	\$ 871.6	\$ 733.0
Foreign	(0.6)	2.2	10.8
Total	\$ 788.1	\$ 873.8	\$ 743.8

Income tax expense (benefit) from continuing operations consists of the following:

<i>in millions</i>	2022	2021	2020
Income Tax Expense (Benefit) from Continuing Operations			
Current			
Federal	\$ 85.2	\$ 103.9	\$ 69.2
State and local	43.6	34.6	23.8
Foreign	4.6	(5.0)	0.9
Total	\$ 133.4	\$ 133.5	\$ 93.9
Deferred			
Federal	\$ 43.4	\$ 39.2	\$ 50.9
State and local	3.3	26.5	10.8
Foreign	12.9	0.9	0.2
Total	\$ 59.6	\$ 66.6	\$ 61.9
Total expense	\$ 193.0	\$ 200.1	\$ 155.8

Income tax expense (benefit) differs from the amount computed by applying the federal statutory income tax rate to earnings from continuing operations before income taxes. The sources and tax effects of the differences are as follows:

<i>dollars in millions</i>	2022		2021		2020	
Income tax expense at the federal statutory tax rate	\$ 165.5	21.0%	\$ 183.5	21.0%	\$ 156.2	21.0%
Expense (Benefit) from Income Tax Differences						
Statutory depletion	(30.6)	-3.9%	(28.3)	-3.2%	(24.7)	-3.3%
State and local income taxes, net of federal income tax benefit	37.5	4.8%	34.7	4.0%	27.4	3.7%
Share-based compensation	(4.9)	-0.6%	(6.1)	-0.7%	(6.9)	-0.9%
Uncertain tax positions	5.1	0.7%	2.5	0.3%	1.4	0.2%
Valuation allowance	14.5	1.8%	13.7	1.6%	0.0	0.0%
Research and development credit	(4.3)	-0.6%	(2.7)	-0.3%	(2.7)	-0.4%
Impairment	10.7	1.4%	0.0	0.0%	0.0	0.0%
Other, net	(0.5)	-0.1%	2.8	0.2%	5.1	0.6%
Total income tax expense/ Effective tax rate	\$ 193.0	24.5%	\$ 200.1	22.9%	\$ 155.8	20.9%

Deferred taxes on the balance sheet result from temporary differences between the amount of assets and liabilities recognized for financial reporting and tax purposes. The components of the net deferred income tax liability at December 31 are as follows:

<i>in millions</i>	2022	2021
Deferred Tax Assets Related to		
Employee benefits	\$ 14.2	\$ 11.8
Incentive compensation	62.1	62.5
Asset retirement obligations & other reserves	82.5	77.9
State net operating losses	86.3	95.0
State bonus depreciation	41.4	30.1
Operating lease liabilities	149.7	176.7
Other	72.0	59.1
Total gross deferred tax assets	\$ 508.2	\$ 513.1
Valuation allowance	(76.8)	(65.7)
Total net deferred tax asset	\$ 431.4	\$ 447.4
Deferred Tax Liabilities Related to		
Property, plant & equipment	\$ 889.4	\$ 824.4
Goodwill/other intangible assets	379.2	380.2
Operating lease right-of-use assets	143.6	176.7
Other	92.0	72.0
Total deferred tax liabilities	\$ 1,504.2	\$ 1,453.3
Net deferred tax liability	\$ 1,072.8	\$ 1,005.9

In August 2022, the Inflation Reduction Act (IRA) was signed into law. The IRA introduces a corporate alternative minimum tax (CAMT) of 15% applicable to corporations with adjusted financial statement income in excess of \$1 billion, as well as certain climate-related tax provisions. The CAMT provision is effective for tax years beginning on or after January 1, 2023. We do not anticipate that the provisions of the IRA will be material to our income taxes.

In February 2021, the Alabama Business Competitiveness Act (ABC Act) was signed into law. The ABC Act contained a provision requiring most taxpayers to change from a three-factor, double-weighted sales method to a single-sales factor method to apportion income to Alabama. This provision had the effect of significantly reducing our apportionment of income to Alabama, thereby further inhibiting our ability to utilize our Alabama net operating loss (NOL) carryforward. As a result, we recorded a charge in the first quarter of 2021 to increase the valuation allowance by \$13.7 million. No other material tax impacts resulted from the enactment of the ABC Act.

Each quarter, we analyze the likelihood that our deferred tax assets will be realized. A valuation allowance is recorded if, based on the weight of all available positive and negative evidence, it is more likely than not (a likelihood of more than 50%) that some portion, or all, of a deferred tax asset will not be realized. At December 31, 2022, we have Alabama state NOL carryforward deferred tax assets of \$77.8 million, against which we have a valuation allowance of \$54.3 million (after considering the ABC Act above). Almost all of the Alabama NOL carryforward would expire between 2023 and 2029 if not utilized.

As discussed in Note 12, in May 2022, Mexican government officials unexpectedly and arbitrarily shut down our Calica operations in Mexico. The impact of the shutdown, combined with recent increased costs (primarily due to underwater mining) has resulted in substantial losses. In 2022, Calica generated a NOL deferred tax asset of \$14.5 million. Based on the weight of all available positive and negative evidence, we have concluded that it is more likely than not that Calica will be unable to realize the NOL deferred tax asset during the ten-year carryforward period. Therefore, we recorded a valuation allowance of \$14.5 million for 2022. Should the Mexican government lift the shutdown and/or if we are successful in our North American Free Trade Agreement (NAFTA) claim, we will reevaluate the need for a valuation allowance against the NOL deferred tax asset.

We consider the undistributed earnings, if any, related to the investment in our Canadian subsidiaries and Canadian investment in its U.S. subsidiary to be indefinitely reinvested; accordingly, no foreign withholding or other income taxes have been provided thereon. Due to complexities in the tax laws, it is not practicable to estimate the amount of deferred income taxes not recorded that are associated with these earnings. We have not, nor do we currently anticipate in the foreseeable future, the need to repatriate funds (other than for the repayment of intercompany loan obligations) to satisfy domestic liquidity needs arising in the ordinary course of business.

Changes in our liability for unrecognized tax benefits for the years ended December 31 are as follows:

<i>in millions</i>	2022	2021	2020
Unrecognized tax benefits as of January 1	\$ 10.8	\$ 6.8	\$ 5.4
Increases for tax positions related to			
Prior years	4.6	0.5	0.4
Current year	6.6	3.9	1.9
Decreases for tax positions related to			
Prior years	(0.2)	0.0	0.0
Expiration of applicable statute of limitations	(3.1)	(0.4)	(0.9)
Unrecognized tax benefits as of December 31	\$ 18.7	\$ 10.8	\$ 6.8

We classify interest and penalties recognized on the liability for unrecognized tax benefits as income tax expense. Interest and penalties recognized as income tax expense were \$0.8 million in 2022, \$0.2 million in 2021 and \$0.0 million in 2020. The balance of accrued interest and penalties included in our liability for unrecognized tax benefits as of December 31 was \$1.8 million in 2022, \$0.8 million in 2021 and \$0.3 million in 2020. Our liability for unrecognized tax benefits at December 31 in the table above includes \$17.6 million in 2022, \$10.3 million in 2021 and \$6.6 million in 2020 that would affect the effective tax rate if recognized. We anticipate no single tax position generating a significant increase or decrease in our liability for unrecognized tax benefits within 12 months of this reporting date.

We file income tax returns in U.S. federal, various state and foreign jurisdictions. With the exception of certain states, we are no longer subject to U.S. federal, state or foreign exams by tax authorities for years prior to 2019.

As of December 31, 2022, income tax receivables of \$1.3 million and \$0.4 million are included in other accounts and notes receivable and other current assets, respectively, in the accompanying Consolidated Balance Sheet. There were similar receivables of \$5.0 million and \$0.6 million recorded in other accounts and notes receivable and other current assets, respectively, as of December 31, 2021.

NOTE 10: BENEFIT PLANS

PENSION PLANS

We sponsor two qualified, noncontributory defined benefit pension plans, the Vulcan Materials Company Pension Plan (VMC Pension Plan) and the CMG Hourly Pension Plan (CMG Pension Plan). The VMC Pension Plan has been closed to new entrants since 2007, and benefit accruals ceased in 2005 for hourly participants and 2013 for salaried participants. The CMG Pension Plan is closed to new entrants other than through one small union, and benefits continue to accrue equal to a flat dollar amount for each year of service. In addition to these qualified plans, we sponsor three unfunded, nonqualified pension plans. The projected benefit obligation (PBO) presented in the table below includes \$44.4 million and \$59.2 million related to these unfunded, nonqualified pension plans for 2022 and 2021, respectively.

During October 2021, we purchased (using pension plan assets) an irrevocable group annuity contract (pension lift-out) from an insurance company for \$87.2 million, representing approximately 10% of the total PBO as of the purchase date. As a result of this transaction: 1) we incurred a settlement charge of \$12.1 million, 2) we were relieved of all responsibility for these pension obligations, and 3) the insurance company is now required to pay and administer the retirement benefits owed to approximately 2,700 U.S. retirees and beneficiaries (representing approximately 50% of retirees in payment status at that time), with no change to the amount, timing or form of retirement benefit payments.

At November 30, 2020, the plans were remeasured to reflect settlement accounting for the CMG Pension Plan and the VMC Pension Plan as a result of voluntary lump sum distributions to certain fully vested plan participants (resulting in a \$22.7 million settlement charge). The following table sets forth the combined funded status of the plans and their reconciliation with the related amounts recognized in our consolidated financial statements at December 31:

<i>in millions</i>	2022	2021
Change in Benefit Obligation		
Projected benefit obligation at beginning of year	\$ 915.4	\$ 1,059.5
Service cost	4.0	4.8
Interest cost	21.1	19.7
Actuarial gain	(200.7)	(25.0)
Benefits paid	(48.7)	(56.4)
Annuity purchase	0.0	(87.2)
Projected benefit obligation at end of year	\$ 691.1	\$ 915.4
Change in Fair Value of Plan Assets		
Fair value of assets at beginning of year	\$ 860.5	\$ 944.2
Actual return on plan assets	(181.8)	51.9
Employer contribution	7.8	8.0
Benefits paid	(48.7)	(56.4)
Annuity purchase	0.0	(87.2)
Fair value of assets at end of year	\$ 637.8	\$ 860.5
Funded status	(53.3)	(54.9)
Net amount recognized	\$ (53.3)	\$ (54.9)
Amounts Recognized in the Consolidated Balance Sheets		
Noncurrent assets	\$ 0.0	\$ 18.2
Current liabilities	(7.8)	(8.2)
Noncurrent liabilities	(45.5)	(64.9)
Net amount recognized	\$ (53.3)	\$ (54.9)
Amounts Recognized in Accumulated Other Comprehensive Income		
Net actuarial loss	\$ 183.4	\$ 176.4
Prior service cost	2.4	3.8
Total amount recognized	\$ 185.8	\$ 180.2

The increase in actuarial gain as of December 31, 2022 was primarily attributable to the increase in discount rates for the plans (approximately 2.2 to 2.6 percentage points) compared with the prior year.

The following table sets forth the pension plans for which their accumulated benefit obligation (ABO) or projected benefit obligation (PBO) exceeds the fair value of their respective plan assets at December 31:

<i>in millions</i>	2022	2021
Pension plans with ABO in excess of plan assets		
Accumulated benefit obligation	\$ 690.9	\$ 249.2
Fair value of assets	637.8	176.6
Pension plans with PBO in excess of plan assets		
Projected benefit obligation	\$ 691.1	\$ 249.7
Fair value of assets	637.8	176.6

The following table sets forth the components of net periodic benefit cost, amounts recognized in other comprehensive income and weighted-average assumptions of the plans at December 31:

<i>dollars in millions</i>	2022	2021	2020
Components of Net Periodic Pension			
Benefit Cost			
Service cost	\$ 4.0	\$ 4.8	\$ 4.9
Interest cost	21.1	19.7	29.3
Expected return on plan assets	(30.1)	(42.8)	(48.6)
Settlement charge	0.0	12.1	22.7
Amortization of prior service cost	1.4	1.3	1.4
Amortization of actuarial loss	4.2	8.0	11.9
Net periodic pension benefit cost	\$ 0.6	\$ 3.1	\$ 21.6
Changes in Plan Assets and Benefit Obligations Recognized in Other Comprehensive Income			
Net actuarial loss (gain)	\$ 11.2	\$ (34.0)	\$ (3.4)
Reclassification of prior service cost	(1.4)	(1.3)	(1.4)
Reclassification of actuarial loss	(4.2)	(20.1)	(34.6)
Amount recognized in other comprehensive income	\$ 5.6	\$ (55.4)	\$ (39.4)
Amount recognized in net periodic pension benefit cost and other comprehensive income	\$ 6.2	\$ (52.3)	\$ (17.8)
Assumptions			
Weighted-average assumptions used to determine net periodic benefit cost for years ended December 31			
Discount rate — PBO	2.92%	2.63%	3.22%
Discount rate — service cost ¹	3.17%	2.94% / 3.21%	3.49% / 2.89%
Discount rate — interest cost	2.37%	1.90%	2.78%
Expected return on plan assets ²	4.00%	5.25% / 3.75%	5.75% / 5.25%
Weighted-average assumptions used to determine benefit obligation at December 31			
Discount rate	5.19%	2.91%	2.57%

¹ As a result of remeasurements, the 2021 service cost discount rates were revised from 2.94% at 12/31/2020 to 3.21% at 10/31/2021 and the 2020 service cost discount rates were revised from 3.49% at 12/31/2019 to 2.89% at 11/30/2020.

² As a result of remeasurements, the 2021 expected return on plan assets were revised from 5.25% at 12/31/2020 to 3.75% at 10/31/2021 and the 2020 expected return on plan assets were revised from 5.75% at 12/31/2019 to 5.25% at 11/30/2020.

Plan assets are invested according to an investment policy that allocates investments to return seeking assets and liability hedging assets based on the plans' funded ratio (fair value of assets/PBO). At December 31, 2022, the total pension asset allocation was approximately 0% return seeking and 100% liability hedging compared to 20% return seeking and 80% liability hedging at December 31, 2021. Return seeking assets include index and actively managed mutual funds and collective investment trusts that hold public equity securities (less than 1% of the plans' assets are in private equity and debt securities via private partnerships). Liability hedging assets include money market securities, inflation linked debt securities, public corporate debt securities and government debt securities that are actively managed to match the duration of the plans' liabilities.

At each measurement date, we estimate the net asset values and fair values of our pension assets using various valuation techniques. For certain investments, we use the net asset value (NAV) as a practical expedient to estimating fair value. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. The fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value into three broad levels as described below:

Level 1: Quoted prices in active markets for identical assets or liabilities

Level 2: Inputs that are derived principally from or corroborated by observable market data

Level 3: Inputs that are unobservable and significant to the overall fair value measurement

The fair values and net asset values of our pension plan assets at December 31, 2022 and 2021 are in the tables below. The assets in the common/collective trusts and in the private partnerships consist of both return seeking and liability hedging investments.

FAIR VALUE MEASUREMENTS AT DECEMBER 31, 2022

<i>in millions</i>	<i>Level 1</i>	<i>Level 2</i>	<i>Level 3</i>	<i>Total</i>
Asset Category				
Debt funds	\$ 0.0	\$ 628.6	\$ 0.0	\$ 628.6
Equity funds	0.0	0.0	0.0	0.0
Investments in the fair value hierarchy	\$ 0.0	\$ 628.6	\$ 0.0	\$ 628.6
Interest in common/collective trusts (at NAV)				5.6
Private partnerships (at NAV)				3.6
Total pension plan assets				\$ 637.8

FAIR VALUE MEASUREMENTS AT DECEMBER 31, 2021

<i>in millions</i>	<i>Level 1</i>	<i>Level 2</i>	<i>Level 3</i>	<i>Total</i>
Asset Category				
Debt funds	\$ 0.0	\$ 662.9	\$ 0.0	\$ 662.9
Equity funds	0.1	59.0	0.0	59.1
Investments in the fair value hierarchy	\$ 0.1	\$ 721.9	\$ 0.0	\$ 722.0
Interest in common/collective trusts (at NAV)				134.3
Private partnerships (at NAV)				4.2
Total pension plan assets				\$ 860.5

The following describes the types of investments included in each asset category listed in the tables above and the valuation techniques we used to determine the fair values or net asset values as of December 31, 2022 and 2021.

The debt funds category consists of U.S. federal, state and local government debt securities, corporate debt securities, foreign government debt securities, and asset-backed securities. The fair values of U.S. government and corporate debt securities are based on current market rates and credit spreads for debt securities with similar maturities. The fair values of debt securities issued by foreign governments are based on prices obtained from broker/dealers and international indices. The fair values of asset-backed securities are priced using prepayment speed and spread inputs that are sourced from the new issue market.

The equity funds category consists primarily of a mutual fund investing in non-domestic equities. For investment funds publicly traded on a national securities exchange, the fair value is based on quoted market prices. For investment funds not traded on an exchange, the total fair value of the underlying securities is used to determine the net asset value for each unit of the fund held by the pension fund. The estimated fair values of the underlying securities are generally valued based on quoted market prices. For securities without quoted market prices, other observable market inputs are used to determine the fair value.

Common/collective trust fund investments consist of an index fund investing primarily in domestic equities and a short-term investment fund for highly liquid, short-term debt securities. Investments are valued at the NAV of units of a bank collective trust. The NAV is based on the fair value of the underlying investments held by the fund less its liabilities. This practical expedient is not used when it is determined to be probable that the fund will sell the investment for an amount different than the reported NAV.

The private partnerships category consists of various venture capital funds, mezzanine debt funds and leveraged buyout funds. The NAV of these investments has been estimated based on methods employed by the general partners, including reference to third-party transactions and valuations of comparable companies.

Total employer contributions to the pension plans are presented below:

<i>in millions</i>	<i>Pension</i>
Employer Contributions	
2020	\$ 8.8
2021	8.0
2022	7.8
2023 (estimated)	7.8

For our qualified pension plans, we made no contributions during 2022, 2021 and 2020. We do not anticipate making contributions to our qualified pension plans in 2023. For our nonqualified pension plans, we contributed \$7.8 million, \$8.0 million and \$8.8 million during 2022, 2021 and 2020, respectively, and expect to contribute \$7.8 million during 2023.

The following benefit payments, which reflect expected future service, as appropriate, are expected to be paid:

<i>in millions</i>	<i>Pension</i>
Estimated Future Benefit Payments	
2023	\$ 49.1
2024	50.3
2025	48.2
2026	48.7
2027	49.6
2028-2032	247.9

We contribute to a number of multiemployer defined benefit pension plans under the terms of collective-bargaining agreements for union-represented employees. The risks of participating in multiemployer plans differ from single employer plans as follows:

- assets contributed to a multiemployer plan by one employer may be used to provide benefits to employees of other participating employers
- if a participating employer stops contributing to the plan, the unfunded obligations of the plan may be borne by the remaining participating employers
- if we cease to have an obligation to contribute to one or more of the multiemployer plans to which we contribute, we may be required to pay those plans an amount based on the underfunded status of the plan, referred to as a withdrawal liability

None of the multiemployer pension plans that we participate in are individually significant. Our contributions to individual multiemployer pension plans did not exceed 5% of the plans' total contributions in the three years ended December 31, 2022, 2021 and 2020. Total contributions to multiemployer pension plans were \$48.6 million in 2022, \$16.9 million in 2021 and \$10.3 million in 2020. The 2022 increase was primarily attributable to the addition of U.S. Concrete multiemployer pension plans and subsequent settlement of the outstanding withdrawal liability for several of those plans.

As of December 31, 2022, a total of 12.9% of our domestic hourly labor force was covered by collective-bargaining agreements. Of such employees covered by collective-bargaining agreements, 27.9% were covered by agreements that expire in 2023. We also employed 296 union employees in Mexico who are covered by a collective-bargaining agreement that will expire in 2023. None of our union employees in Mexico participate in multiemployer pension plans.

In addition to the pension plans noted above, we had one unfunded supplemental retirement plan as of December 31, 2022 and 2021. The accrued costs for the supplemental retirement plan were \$1.0 million at December 31, 2022 and \$1.1 million at December 31, 2021.

POSTRETIREMENT PLANS

In addition to pension benefits, we provide certain healthcare and life insurance benefits for some retired employees. In 2021, we amended our postretirement healthcare plan to increase our employer contribution rate from the previously capped level to a higher level effective 2022. This served as a cost reduction for retirees in 2022 and beyond as we use this new benchmark for future employer contributions. Previously (in 2012), we amended our postretirement healthcare plan to cap our employer portion of the medical coverage cost at the 2015 level.

Substantially all our salaried employees and, where applicable, certain of our hourly employees may become eligible for these benefits if they reach a qualifying age and meet certain service requirements. Generally, Company-provided healthcare benefits end when covered individuals become eligible for Medicare benefits, become eligible for other group insurance coverage or reach age 65, whichever occurs first.

The following table sets forth the combined funded status of the plans and their reconciliation with the related amounts recognized in our consolidated financial statements at December 31:

<i>in millions</i>	2022	2021
Change in Benefit Obligation		
Projected benefit obligation at beginning of year	\$ 46.0	\$ 33.9
Service cost	2.3	1.3
Interest cost	0.9	0.5
Plan amendments	0.0	14.9
Actuarial (gain) loss	(2.5)	0.9
Benefits paid	(4.9)	(5.5)
Projected benefit obligation at end of year	\$ 41.8	\$ 46.0
Change in Fair Value of Plan Assets		
Fair value of assets at beginning of year	\$ 0.0	\$ 0.0
Actual return on plan assets	0.0	0.0
Fair value of assets at end of year	\$ 0.0	\$ 0.0
Funded status	\$ (41.8)	\$ (46.0)
Net amount recognized	\$ (41.8)	\$ (46.0)
Amounts Recognized in the Consolidated Balance Sheets		
Current liabilities	\$ (5.1)	\$ (4.6)
Noncurrent liabilities	(36.7)	(41.4)
Net amount recognized	\$ (41.8)	\$ (46.0)
Amounts Recognized in Accumulated Other Comprehensive Income		
Net actuarial gain	\$ (17.9)	\$ (16.7)
Prior service cost	13.1	12.8
Total amount recognized	\$ (4.8)	\$ (3.9)

The increase in actuarial gain as of December 31, 2022 was primarily attributable to the increase in discount rates for the plans (approximately 2.3 to 2.9 percentage points) compared with the prior year.

The following table sets forth the components of net periodic benefit cost, amounts recognized in other comprehensive income, weighted-average assumptions and assumed trend rates of the plans at December 31:

<i>dollars in millions</i>	2022	<i>2021</i>	<i>2020</i>
Components of Net Periodic Postretirement Benefit Cost			
Service cost	\$ 2.2	\$ 1.2	\$ 1.5
Interest cost	0.9	0.5	1.0
Amortization of prior service credit	(0.3)	(1.5)	(3.9)
Amortization of actuarial gain	(1.3)	(1.4)	(0.8)
Net periodic postretirement benefit cost (credit)	\$ 1.5	\$ (1.2)	\$ (2.2)
Changes in Plan Assets and Benefit Obligations Recognized in Other Comprehensive Income			
Net actuarial (gain) loss	\$ (2.4)	\$ 0.9	\$ (5.1)
Prior service cost	0.0	14.9	0.0
Reclassification of prior service credit	0.3	1.5	3.9
Reclassification of actuarial gain	1.3	1.4	0.8
Amount recognized in other comprehensive income	\$ (0.8)	\$ 18.7	\$ (0.4)
Amount recognized in net periodic postretirement benefit cost and other comprehensive income	\$ 0.7	\$ 17.5	\$ (2.6)
Assumptions			
Assumed Healthcare Cost Trend Rates at December 31			
Healthcare cost trend rate assumed for next year (Pre-65/Post-65)	7.04% / n/a	6.60% / 6.50%	n/a
Rate to which the cost trend rate gradually declines	4.50%	4.50%	n/a
Year that the rate reaches the rate it is assumed to maintain	2030	2028	n/a
Weighted-average assumptions used to determine net periodic benefit cost for years ended December 31			
Discount rate — PBO	2.59%	2.19%	2.84%
Discount rate — service cost ¹	2.89%	2.45% / 2.84%	3.09%
Discount rate — interest cost	2.06%	1.60%	2.42%
Weighted-average assumptions used to determine benefit obligation at December 31			
Discount rate	5.08%	2.59%	2.09%

¹ As a result of remeasurements, the 2021 service cost discount rates were revised from 2.45% at 12/31/2020 to 2.84% at 9/30/2021.

Total employer contributions to the postretirement plans are presented below:

<i>in millions</i>	<i>Postretirement</i>
Employer Contributions	
2020	\$ 4.7
2021	5.5
2022	4.9
2023 (estimated)	5.1

The employer contributions shown above are equal to the cost of benefits during the year. The plans are not funded and are not subject to any regulatory funding requirements.

The following benefit payments, which reflect expected future service, as appropriate, are expected to be paid:

<i>in millions</i>	<i>Postretirement</i>
Estimated Future Benefit Payments	
2023	\$ 5.1
2024	5.0
2025	5.0
2026	4.8
2027	4.8
2028–2032	20.6

Contributions by participants to the postretirement benefit plans for the years ended December 31 are as follows:

<i>in millions</i>	<i>Postretirement</i>
Participants Contributions	
2020	\$ 2.6
2021	2.3
2022	2.0

PENSION AND OTHER POSTRETIREMENT BENEFITS ASSUMPTIONS

Each year, we review our assumptions for discount rates (used for PBO, service cost, and interest cost calculations), the per capita cost of healthcare benefits and the expected return on plan assets. Due to plan changes made in 2013, annual pay increases do not materially impact plan obligations.

We use a high-quality bond full yield curve approach (specific spot rates for each annual expected cash flow) to establish the discount rates at each measurement date. At December 31, 2022, the discount rates used were as follows:

- PBO for various plans – ranged from 4.97% to 5.25% (December 31, 2021 ranged from 2.09% to 3.07%)
- Service cost – weighted average of 3.17% and 2.89%, respectively, for our pension plans and our other postretirement plans (2021 figures were 2.99% and 2.55%, respectively)
- Interest cost – weighted average of 2.37% and 2.06%, respectively, for our pension plans and our other postretirement plans (2021 figures were 1.90% and 1.60%, respectively)

In selecting the rate of increase in the per capita cost of covered healthcare benefits, we consider past performance and forecast of future healthcare cost trends. At December 31, 2022, our assumed rate of increase in the per capita cost of covered healthcare benefits was 7.04% for pre-65 coverage, with rates decreasing each year until reaching 4.50% in 2030 and remaining level thereafter.

Our expected return on plan assets is: (1) a long-term view based on our current asset allocation, and (2) a judgment informed by consultation with our retirement plans' consultant and our pension plans' actuary. As a result of remeasurements, the 2021 expected return on plan assets was revised from 5.25% at 12/31/2020 to 3.75% at 10/31/2021. For 2023 and 2022, the expected return on plan assets used to measure plan benefit costs was set at 4.85% and 4.00%, respectively.

DEFINED CONTRIBUTION PLANS

In addition to our pension and postretirement plans, we sponsor five defined contribution plans. Substantially all salaried and nonunion hourly employees are eligible to be covered by one of these plans. Under these plans, we match employees' eligible contributions at established rates. Expense recognized in connection with these matching obligations totaled \$68.2 million in 2022, \$67.5 million in 2021 and \$50.8 million in 2020.

NOTE 11: INCENTIVE PLANS

SHARE-BASED COMPENSATION PLANS

Our 2016 Omnibus Long-term Incentive Plan (Plan) authorizes the granting of performance shares, restricted shares, Stock-Only Stock Appreciation Rights (SOSARs) and other types of share-based awards to key salaried employees and nonemployee directors. The maximum number of shares that may be issued under the Plan is 8,000,000, of which 5,441,616 shares remain under this authorization as of December 31, 2022.

PERFORMANCE SHARES — Each performance share unit is equal to and paid in one share of our common stock, but carries no voting rights. The number of units ultimately paid for performance share awards may range from 0% to 200% of the number of units awarded on the date of grant. Payment is based upon the outcome of performance and/or market conditions. Awards vest on December 31 of the third year after date of grant. Vesting is accelerated upon death, disability, or change of control and the awards become non-forfeitable upon reaching retirement age — all as defined in the award agreement. Nonvested units are forfeited upon termination for any other reason. Expense provisions referable to performance share awards amounted to \$23.2 million in 2022, \$18.2 million in 2021 and \$17.8 million in 2020.

The fair value of performance shares is estimated as of the date of grant using a Monte Carlo simulation model. The following table summarizes the activity for nonvested performance share units during the year ended December 31, 2022:

	<i>Target Number of Shares</i>	<i>Weighted-average Grant Date Fair Value</i>
Performance Shares		
Nonvested at January 1, 2022	220,988	\$ 148.93
Granted	116,825	185.31
Vested	(109,880)	133.95
Canceled/forfeited	(8,032)	163.95
Nonvested at December 31, 2022	219,901	\$ 160.48

During 2021 and 2020, the weighted-average grant date fair value of performance shares granted was \$164.38 and \$133.95, respectively.

The aggregate values for distributed performance share awards are based on the closing price of our common stock as of the distribution date. The aggregate values of distributed performance shares for the years ended December 31 are as follows:

<i>in millions</i>	2022	<i>2021</i>	<i>2020</i>
Aggregate value of distributed performance shares	\$ 33.4	\$ 19.6	\$ 38.8

RESTRICTED SHARES — Each restricted share unit is equal to and paid in one share of our common stock, but carries no voting rights. Awards vest on the third anniversary of the grant date. Vesting is accelerated upon reaching retirement age, death, disability, or change of control, all as defined in the award agreement. Nonvested units are forfeited upon termination for any other reason. Expense provisions referable to restricted share awards amounted to \$11.6 million in 2022, \$10.4 million in 2021 and \$9.8 million in 2020.

The fair value of restricted shares is estimated as of the date of grant based on the stock price adjusted for dividends foregone. The following table summarizes the activity for nonvested restricted share units during the year ended December 31, 2022:

	<i>Number of Shares</i>	<i>Weighted-average Grant Date Fair Value</i>
Restricted Stock Units		
Nonvested at January 1, 2022	205,280	\$ 135.26
Granted	76,036	184.49
Vested	(86,326)	117.27
Canceled/forfeited	(9,502)	162.76
Nonvested at December 31, 2022	185,488	\$ 162.40

During 2021 and 2020, the weighted-average grant date fair value of restricted shares granted was \$164.38 and \$133.95, respectively.

The aggregate values for distributed restricted share awards are based on the closing price of our common stock as of the distribution date. The aggregate values of distributed restricted shares for the years ended December 31 are as follows:

<i>in millions</i>	2022	<i>2021</i>	<i>2020</i>
Aggregate value of distributed restricted shares	\$ 15.7	\$ 9.0	\$ 12.2

STOCK-ONLY STOCK APPRECIATION RIGHTS (SOSARs) — SOSARs granted have an exercise price equal to the market value of our underlying common stock on the date of grant. The SOSARs vest ratably over 3 years and expire 10 years subsequent to the date of grant. Vesting is accelerated upon reaching retirement age, death, disability, or change of control, all as defined in the award agreement. Nonvested awards are forfeited upon termination for any other reason.

The fair value of SOSARs is estimated as of the date of grant using the Black-Scholes option pricing model. Compensation cost for SOSARs is based on this grant date fair value and is recognized for awards that ultimately vest. The following table presents the weighted-average fair value and the weighted-average assumptions used in estimating the fair value of grants during the years ended December 31:

	2022	<i>2021</i>	<i>2020</i>
SOSARs			
Fair value	\$ 60.57	\$ 52.19	\$ 40.91
Risk-free interest rate	2.02%	1.18%	1.50%
Dividend yield	0.77%	0.62%	0.71%
Volatility	26.68%	27.33%	25.74%
Expected term (years)	9.00	9.00	9.00

The risk-free interest rate is based on the yield at the date of grant of a U.S. Treasury security with a maturity period approximating the SOSARs expected term. The dividend yield assumption is based on our historical dividend payouts adjusted for current expectations of future payouts. The volatility assumption is based on the historical volatility and expectations about future volatility of our common stock over a period equal to the SOSARs expected term. The expected term is based on historical experience and expectations about future exercises and represents the period of time that SOSARs granted are expected to be outstanding.

A summary of our SOSAR activity as of December 31, 2022 and changes during the year are presented below:

	<i>Number of Shares</i>	<i>Weighted-average Exercise Price</i>	<i>Weighted-average Remaining Contractual Life (Years)</i>	<i>Aggregate Intrinsic Value (in millions)</i>
SOSARs				
Outstanding at January 1, 2022	624,144	\$ 105.43		
Granted	69,015	185.29		
Exercised	(18,790)	74.66		
Forfeited or expired	0	0.00		
Outstanding at December 31, 2022	674,369	\$ 114.46	4.74	\$ 41.0
Exercisable at December 31, 2022	536,100	\$ 100.29	3.79	\$ 39.6

The aggregate intrinsic values in the table above represent the total pretax intrinsic value (the difference between our stock price on the last trading day of 2022 and the exercise price, multiplied by the number of in-the-money SOSARs) that would have been received by the option holders had all SOSARs been exercised on December 31, 2022. These values change based on the fair market value of our common stock. The aggregate intrinsic values of SOSARs exercised for the years ended December 31 are as follows:

<i>in millions</i>	2022	2021	2020
Aggregate intrinsic value of SOSARs exercised	\$ 1.9	\$ 24.9	\$ 22.3

The following table presents cash received and tax benefit realized from SOSAR exercises and compensation cost recorded referable to SOSARs for the years ended December 31:

<i>in millions</i>	2022	2021	2020
SOSARs			
Cash received from exercises	\$ 0.0	\$ 0.0	\$ 0.0
Tax benefit from exercises	0.4	6.3	5.7
Compensation cost	4.0	3.9	3.9

NONEMPLOYEE DIRECTOR AWARDS — In addition to the share-based compensation plans for employees discussed above, we issue a limited number of stock units to our nonemployee directors annually. Expense provisions referable to nonemployee director stock units amounted to \$2.4 million in 2022, \$2.2 million in 2021 and \$1.6 million in 2020.

CASH-BASED COMPENSATION PLANS

We have incentive plans under which cash awards may be made annually. Expense provisions under these plans referable to awards to officers and certain employees amounted to \$42.8 million in 2022, \$42.2 million in 2021 and \$42.1 million in 2020.

NOTE 12: COMMITMENTS AND CONTINGENCIES

We have commitments in the form of unconditional purchase obligations as of December 31, 2022. These include commitments for the purchase of property, plant & equipment of \$33.4 million and commitments for noncapital purchases of \$199.6 million. These commitments are due as follows:

<i>in millions</i>	<i>Unconditional Purchase Obligations</i>	
Property, Plant & Equipment		
2023	\$	33.4
Thereafter		0.0
Total	\$	33.4
Noncapital (primarily transportation and electricity contracts)		
2023	\$	36.3
2024–2025		66.3
2026–2027		52.5
Thereafter		44.5
Total	\$	199.6

Expenditures for noncapital purchases totaled \$96.7 million in 2022, \$53.4 million in 2021, \$87.4 million in 2020.

We have commitments in the form of minimum royalties under mineral leases as of December 31, 2022 in the amount of \$238.7 million, due as follows:

<i>in millions</i>	<i>Mineral Leases</i>	
Minimum Royalties		
2023	\$	25.9
2024–2025		36.9
2026–2027		25.8
Thereafter		150.1
Total	\$	238.7

Expenditures for royalties under mineral leases totaled \$109.1 million in 2022, \$90.4 million in 2021 and \$81.5 million in 2020.

Certain of our aggregates reserves are burdened by volumetric production payments (nonoperating interest) as described in Note 2. As the holder of the working interest, we have responsibility to bear the cost of mining and producing the reserves attributable to this nonoperating interest.

As described in Note 1 under the caption Claims and Litigation Including Self-Insurance, our net liabilities for our self-insurance program totaled \$130.8 million as of December 31, 2022.

As summarized by purpose in Note 6, our standby letters of credit totaled \$78.6 million as of December 31, 2022.

As outlined in Note 7, our present value of future minimum (nonmineral) lease payments totaled \$653.6 million as of December 31, 2022.

As described in Note 9, our liability for unrecognized tax benefits is \$18.7 million as of December 31, 2022.

As described in Note 17, our asset retirement obligations totaled \$311.3 million as of December 31, 2022.

LITIGATION AND ENVIRONMENTAL MATTERS

We are subject to occasional governmental proceedings and orders pertaining to occupational safety and health or to protection of the environment, such as proceedings or orders relating to noise abatement, air emissions or water discharges. As part of our continuing program of stewardship in safety, health and environmental matters, we have been able to resolve such proceedings and to comply with such orders without any material adverse effects on our business.

We have received notices from the United States Environmental Protection Agency (EPA) or similar state or local agencies that we are considered a potentially responsible party (PRP) at a limited number of sites under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund) or similar state and local environmental laws. Generally we share the cost of remediation at these sites with other PRPs or alleged PRPs in accordance with negotiated or prescribed allocations. There is inherent uncertainty in determining the potential cost of remediating a given site and in determining any individual party's share in that cost. As a result, estimates can change substantially as additional information becomes available regarding the nature or extent of site contamination, remediation methods, other PRPs and their probable level of involvement, and actions by or against governmental agencies or private parties.

We have reviewed the nature and extent of our involvement at each Superfund site, as well as potential obligations arising under other federal, state and local environmental laws. While ultimate resolution and financial liability is uncertain at a number of the sites, in our opinion, based on information currently available, the ultimate resolution of claims and assessments related to these sites will not have a material effect on our consolidated results of operations, financial position or cash flows, although amounts recorded in a given period could be material to our results of operations or cash flows for that period. Amounts accrued for environmental matters are presented in Note 8.

We are a defendant in various lawsuits in the ordinary course of business. It is not possible to determine with precision the outcome, or the amount of liability, if any, under these lawsuits, especially where the cases involve possible jury trials with as yet undetermined jury panels.

In addition to these lawsuits in which we are involved in the ordinary course of business, certain other material legal proceedings are specifically described below.

- LOWER PASSAIC RIVER STUDY AREA (DISCONTINUED OPERATIONS and SUPERFUND SITE) — The Lower Passaic River Study Area is part of the Diamond Shamrock Superfund Site in New Jersey. Vulcan and approximately 70 other companies are parties (collectively the Cooperating Parties Group, CPG) to a May 2007 Administrative Order on Consent (AOC) with the EPA to perform a Remedial Investigation/Feasibility Study (draft RI/FS) of the lower 17 miles of the Passaic River (River). The draft RI/FS was submitted recommending a targeted hot spot remedy; however, the EPA issued a record of decision (ROD) in March 2016 that calls for a bank-to-bank dredging remedy for the lower 8 miles of the River. The EPA estimates that the cost of implementing this proposal is \$1.38 billion. In September 2016, the EPA entered into an Administrative Settlement Agreement and Order on Consent with Occidental Chemical Corporation (Occidental) in which Occidental agreed to undertake the remedial design for this bank-to-bank dredging remedy and to reimburse the United States for certain response costs.

Efforts to investigate and remediate the River have been underway for many years and have involved hundreds of entities that have had operations on or near the River at some point during the past several decades. We formerly owned a chemicals operation near the mouth of the River, which was sold in 1974. The major risk drivers in the River have been identified to include dioxins, PCBs, DDx and mercury. We did not manufacture any of these risk drivers and have no evidence that any of these were discharged into the River by Vulcan.

In August 2017, the EPA informed certain members of the CPG, including Vulcan and others, that it planned to use the services of a third-party allocator with the expectation of offering cash-out settlements to some parties in connection with the bank-to-bank remedy identified in the ROD. This voluntary allocation process established an impartial third-party expert recommendation for use by the government and the participants as the basis for possible settlements, including settlements related to future remediation actions. The final allocation recommendations, which are subject to confidentiality provisions, were submitted to the EPA for its review and consideration in late December 2020. Certain PRPs, including Vulcan, thereafter received a joint confidential settlement demand from the EPA/Department of Justice (DOJ). Vulcan and certain of the other PRPs that received the joint confidential settlement demand (the Settling Defendants) reached an agreement to settle with the EPA/DOJ and negotiated a Consent Decree. The Consent Decree has been lodged with the court. Vulcan's portion of the settlement is within the immaterial loss recorded for this matter in 2015.

In July 2018, Vulcan, along with more than one hundred other defendants, was sued by Occidental in United States District Court for the District of New Jersey, Newark Vicinage. Occidental is seeking cost recovery and contribution under CERCLA. It is unknown at this time how the settlement with the EPA/DOJ would affect the Occidental lawsuit.

- **TEXAS BRINE MATTER (DISCONTINUED OPERATIONS)** — During operation of its former Chemicals Division, Vulcan leased the right to mine salt out of an underground salt dome formation in Assumption Parish, Louisiana from 1976 - 2005. Throughout that period, Texas Brine Company (Texas Brine) was the operator contracted by Vulcan to mine and deliver the salt as brine. We sold our Chemicals Division in 2005 and transferred our rights and interests related to the salt and mining operations to the purchaser, a subsidiary of Occidental Chemical Company (Occidental), and we have had no association with the leased premises or Texas Brine since that time. In August 2012, a sinkhole developed in the vicinity of the Texas Brine mining operations. Numerous lawsuits were filed thereafter in state court in Assumption Parish, Louisiana. Other lawsuits, including class action litigation, were filed in the United States District Court for the Eastern District of Louisiana in New Orleans.

In these lawsuits, the main plaintiffs sued numerous defendants, including Texas Brine, Occidental and Vulcan, alleging various damages including, but not limited to, property damages; a claim by the State of Louisiana for response costs and civil penalties; physical damages to oil and gas pipelines and storage facilities (pipelines); and business interruption losses. All such claims have been settled except for the claims by the State of Louisiana. Our insurers to date have funded these settlements in excess of our self-insured retention amount.

Additionally, Texas Brine, Occidental and Vulcan sued each other in various state and federal court forums. Vulcan and Occidental have since dismissed all of their claims against one another; Texas Brine's and Occidental's claims against each other are pending in arbitration; and Texas Brine's and Vulcan's claims against each other are pending in state and federal court. In general, Texas Brine alleges that the sinkhole was caused, in whole or in part, by our negligent or fraudulent actions or failure to act; that we breached the salt lease with Occidental, as well as an operating agreement and related contracts with Texas Brine; that we were strictly liable for certain property damages in our capacity as a former lessee of the salt lease; and that we violated the agreement under which we sold our Chemicals Division to Occidental. Texas Brine's claims against Vulcan include claims for past and future response costs, lost profits and investment costs, indemnity payments, attorneys' fees, other litigation costs, and judicial interests. Texas Brine also recently filed a lawsuit against Vulcan seeking indemnity for potential exposure Texas Brine may have to Occidental in the related arbitration, the State of Louisiana, and for ongoing and future Louisiana regulatory matters. In August 2022, we removed the lawsuit to federal court.

The state court held a joint bench trial (judge only) in 2017 in three cases brought by pipeline companies claiming damages to their facilities as a result of the sinkhole. This "Phase 1" trial was limited in scope to comparative fault and liability for causing the sinkhole. In December 2017, the trial court issued a ruling allocating fault as follows: Occidental 50%, Texas Brine (and its wholly-owned subsidiary) 35% and Vulcan 15%. In December 2020, the Louisiana Court of Appeal, First Circuit reversed the judgment in part in one of the three jointly tried cases, allocating 55% of the fault to Texas Brine (and its wholly-owned subsidiary); 30% to Occidental; and affirming the 15% fault allocation to Vulcan. In May 2021 and April 2022, the Court of Appeal issued judgments in the other two pipeline cases, adopting the same fault allocation. The Louisiana Supreme Court has declined to review the judgments in two of the pipeline cases, resulting in final judgments regarding fault allocations in those matters. Texas Brine's and Vulcan's writ applications in the third pipeline case remain pending.

In the second quarter of 2022, we recorded an immaterial loss related to the claims brought by Texas Brine. In August 2022, Vulcan and Texas Brine commenced a joint "Phase 2" bench trial in the same three pipeline cases where fault was allocated. Prior to trial, the trial court granted various motions by Vulcan seeking dismissal of Texas Brine's contract-based claims and hundreds of millions of dollars in alleged damages. Thus, the Phase 2 trial addressed the claims that remained pending between Texas Brine and Vulcan after that motion practice. During the Phase 2 trial, Texas Brine and Vulcan stipulated to the amount of Texas Brine's damages for its surviving tort claims at issue in the trial. After applying Vulcan's 15% fault allocation, Vulcan's stipulated financial responsibility for the damages at issue in the trial is within the immaterial loss recorded during the second quarter of 2022. In December 2022, the trial court entered a judgment in the pipelines cases reflecting this stipulation.

The December 2022 Phase 2 judgment did not address numerous of Texas Brine's claims seeking hundreds of millions of dollars in damages that were dismissed prior to trial. Texas Brine has appealed and/or we anticipate Texas Brine will appeal each of those judgments. We cannot at this time reasonably estimate the range of liability, if any, that could result if an appellate court reverses any of the trial court's decisions.

At this time, we also cannot reasonably estimate a range of liability pertaining to the claims brought by the State of Louisiana. The State of Louisiana's lawsuit has been dormant awaiting final disposition of the Phase 1 proceedings which remain pending before the Louisiana Supreme Court in one of the three pipeline cases (along with a motion for leave to assert equivalent claims in state court).

- **NEW YORK WATER DISTRICT CASES (DISCONTINUED OPERATIONS)** — During the operation of our former Chemicals Division, which was divested to Occidental in 2005, Vulcan manufactured a chlorinated solvent known as 1,1,1-trichloroethane. We are a defendant in 27 cases allegedly involving 1,1,1-trichloroethane. All of the cases are filed in the United States District Court for the Eastern District of New York. According to the various complaints, the plaintiffs are public drinking water providers who serve customers in seven New York counties (Nassau, Orange, Putnam, Sullivan, Ulster, Washington and Westchester). It is alleged that our 1,1,1-trichloroethane was stabilized with 1,4-dioxane and that various water wells of the plaintiffs are contaminated with 1,4-dioxane. The plaintiffs are seeking unspecified compensatory and punitive damages. We will vigorously defend the cases. At this time we cannot determine the likelihood, or reasonably estimate a range of loss, if any, pertaining to the cases.

- **HEWITT LANDFILL MATTER (SUPERFUND SITE)** — In September 2015, the Los Angeles Regional Water Quality Control Board (RWQCB) issued a Cleanup and Abatement Order directing Vulcan to assess, monitor, cleanup and abate wastes that have been discharged to soil, soil vapor, and/or groundwater at the former Hewitt Landfill in Los Angeles.

Following an onsite and offsite investigation and pilot scale testing, the RWQCB approved a corrective action that includes leachate recovery, storm water capture and conveyance improvements, and a groundwater pump, treat and reinjection system. Certain on-site source control measures have been implemented, and the new treatment system is fully operational. Currently-anticipated costs of these on-site source control activities have been fully accrued.

We are also engaged in an ongoing dialogue with the EPA, Honeywell, and the Los Angeles Department of Water and Power (LADWP) regarding the potential contribution of the Hewitt Landfill to groundwater contamination in the North Hollywood Operable Unit (NHOU) of the San Fernando Valley Superfund Site.

The EPA and Vulcan entered into an AOC and Statement of Work having an effective date of September 2017 for the design of two extraction wells south of the Hewitt Landfill to protect the North Hollywood West (NHW) well field located within the NHOU. In November 2017, we submitted a Pre-Design Investigation (PDI) Work Plan to the EPA, which sets forth the activities and schedule for collection of data in support of our evaluation of the need for an offsite remedy. In addition, this evaluation was expanded as part of the PDI to include the evaluation of a remedy in light of LADWP's Rinaldi-Toluca (RT) wellfield project. PDI investigative activities were completed between the first and third quarters of 2018, and in December 2018 we submitted a Draft PDI Evaluation Report to the EPA. The PDI Evaluation Report summarizes data collection activities conducted pursuant to the Draft PDI Work Plan and provides model updates and evaluation of remediation alternatives for offsite areas. The EPA provided an initial set of comments on the Draft PDI Evaluation Report in May 2019 and a final set of comments in October 2020. The final set of comments included a request for Vulcan to revise and develop a Final PDI Evaluation Report. The final comments further provided, if Vulcan agrees, a proposal for an alternative approach for offsite remediation (as opposed to installation of offsite extraction wells) and development of a Supplemental PDI Evaluation Report that would require the EPA to modify the remedy in the 2009 ROD as it relates to the Hewitt Landfill. In December 2020, Vulcan submitted the Final PDI Evaluation Report, which included edits to the Draft PDI Evaluation Report and responses to the EPA's comments. Until the EPA's review and approval of the Final PDI Evaluation Report and any Supplemental PDI Evaluation Report on remedial alternative(s) is complete and an effective remedy has been selected by the EPA or agreed upon, we cannot identify any further remedial action that may be required. Given the various stakeholders involved and the uncertainties relating to remediation alternatives, we cannot reasonably estimate a loss pertaining to Vulcan's responsibility for future remedial action required by the EPA.

In December 2019, Honeywell agreed with LADWP to build a water treatment system (often referred to as the Cooperative Containment Concept or CCC or the second interim remedy) that will provide treated groundwater in the NHOU to LADWP for public water supply purposes. Honeywell contends that some of the contamination to be remediated by the system it will build originated from the Hewitt Landfill and that Vulcan should fund some portion of the costs that Honeywell has incurred and will incur in developing the second interim remedy. During the fourth quarter of 2021, Vulcan completed a partial settlement with Honeywell related to certain of the costs that Honeywell has incurred for an immaterial amount. Discussions are ongoing with Honeywell regarding other costs Honeywell has incurred or will incur. We are also gathering and analyzing data and developing technical information to determine the extent of possible contribution by the Hewitt Landfill to the groundwater contamination in the area. Based on this technical information, we have accrued an immaterial amount for our contribution of future costs to be incurred by Honeywell. This work is also intended to assist in identification of other PRPs that may have contributed to groundwater contamination in the area.

Further, LADWP has announced plans to install new treatment capabilities at two city wellfields located near the Hewitt Landfill — the NHW wellfield and the RT wellfield. LADWP has alleged that the Hewitt Landfill is one of the primary PRPs for the contamination at the NHW wellfield and is one of many PRPs for the contamination at the RT wellfield. We are gathering and analyzing data and developing technical information to determine the extent of possible contribution by the Hewitt Landfill to the groundwater contamination in the area, consistent with the parallel request by the EPA. This work is also intended to assist in identification of other PRPs that may have contributed to groundwater contamination in the area. Vulcan is also seeking access to LADWP's list of PRPs. At this time, we cannot reasonably estimate a range of a loss to Vulcan pertaining to this contribution claim.

- **NAFTA ARBITRATION** — In September 2018, our subsidiary Legacy Vulcan, LLC (Legacy Vulcan), on its own behalf, and on behalf of our Mexican subsidiary Calizas Industriales del Carmen, S.A. de C.V. (Calica), served the United Mexican States (Mexico) a Notice of Intent to Submit a Claim to Arbitration under Chapter 11 of the North American Free Trade Agreement (NAFTA). This NAFTA claim relates to the treatment of a portion of our quarrying operations in Quintana Roo, Mexico, arising from, among other measures, Mexico's failure to comply with a legally binding zoning agreement and relates to other unfair, arbitrary and capricious actions by Mexico's environmental enforcement agency. We assert that these actions are in breach of Mexico's international obligations under NAFTA and international law.

As required by Article 1118 of NAFTA, we sought to settle this dispute with Mexico through consultations. Notwithstanding our good faith efforts to resolve the dispute amicably, we were unable to do so and filed a Request for Arbitration with the International Centre for Settlement of Investment Disputes (ICSID) in December 2018. In January 2019, ICSID registered our Request for Arbitration.

A hearing on the merits took place in July 2021. While we awaited the final resolution from the tribunal, we continued to engage with government officials to pursue an amicable resolution of the dispute. On May 5, 2022, Mexican government officials unexpectedly and arbitrarily shut down Calica's remaining operations in Mexico. On May 8, 2022, Legacy Vulcan filed an application in the NAFTA arbitration seeking provisional measures and leave to file an ancillary claim in connection with this latest shutdown (see Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations – Known Trends or Uncertainties). On July 11, 2022, the NAFTA arbitration tribunal granted Legacy Vulcan's application and ordered Mexico not to take any action that might further aggravate the dispute between the parties or render the resolution of the dispute potentially more difficult. Legacy Vulcan's ancillary claim will be addressed as part of the pending arbitration, and we expect that the NAFTA arbitration tribunal will issue a decision no earlier than 2024.

At this time, there can be no assurance whether we will be successful in our NAFTA claim, and we cannot quantify the amount we may recover, if any, under this arbitration proceeding if we are successful.

It is not possible to predict the ultimate outcome of these and other legal proceedings in which we are involved, and a number of factors, including developments in ongoing discovery or adverse rulings, or the verdict of a particular jury, could cause actual losses to differ materially from accrued costs. No liability was recorded for claims and litigation for which a loss was determined to be only reasonably possible or for which a loss could not be reasonably estimated. Legal costs incurred in defense of lawsuits are expensed as incurred. In addition, losses on certain claims and litigation described above may be subject to limitations on a per occurrence basis by excess insurance, as described in Note 1 under the caption Claims and Litigation Including Self-Insurance.

NOTE 13: EQUITY

Our capital stock consists solely of common stock, par value \$1.00 per share, of which 480,000,000 shares may be issued. Holders of our common stock are entitled to one vote per share. We may also issue 5,000,000 shares of preferred stock, but no shares have been issued. The terms and provisions of such shares will be determined by our Board of Directors upon any issuance of preferred shares in accordance with our Certificate of Incorporation.

There were no shares held in treasury as of December 31, 2022, 2021 and 2020.

Our common stock purchases (all of which were open market purchases) and subsequent retirements for the years ended December 31 are summarized below:

<i>in millions, except average cost</i>	2022	<i>2021</i>	<i>2020</i>
Shares Purchased and Retired			
Number	0.0	0.0	0.2
Total purchase price	\$ 0.0	\$ 0.0	\$ 26.1
Average cost per share	\$ 0.00	\$ 0.00	\$ 121.92

As of December 31, 2022, 8,064,851 shares may be purchased under the current authorization of our Board of Directors.

Dividends for the years ended December 31 were as follows:

<i>in millions, except per share data</i>	2022	<i>2021</i>	<i>2020</i>
Dividends			
Cash dividends	\$ 212.6	\$ 196.4	\$ 180.2
Cash dividends per share	\$ 1.60	\$ 1.48	\$ 1.36

Total equity as presented in the consolidated financial statements for the year ended December 31, 2022 includes a noncontrolling interest of \$23.6 million, representing the unowned portion of a subsidiary. See Note 1 under the heading "Noncontrolling Interest" for additional discussion.

NOTE 14: OTHER COMPREHENSIVE INCOME

Comprehensive income comprises two subsets: net earnings and other comprehensive income (OCI). The components of OCI are presented in the accompanying Consolidated Statements of Comprehensive Income and Consolidated Statements of Equity, net of applicable taxes.

Amounts in accumulated other comprehensive income (loss) (AOCI), net of tax, at December 31, are as follows:

<i>in millions</i>	2022	2021	2020
AOCI			
Cash flow hedges	\$ (21.0)	\$ (22.5)	\$ (24.0)
Pension and postretirement plans	(133.7)	(130.2)	(157.3)
Total	\$ (154.7)	\$ (152.7)	\$ (181.3)

Changes in AOCI, net of tax, for the three years ended December 31, 2022 are as follows:

<i>in millions</i>	Cash Flow Hedges	Pension and Postretirement Benefit Plans	Total
AOCI			
Balances at December 31, 2019	\$ (11.0)	\$ (186.7)	\$ (197.7)
Other comprehensive income (loss) before reclassifications	(14.7)	6.4	(8.3)
Amounts reclassified from AOCI	1.7	23.0	24.7
Net OCI changes	(13.0)	29.4	16.4
Balances at December 31, 2020	\$ (24.0)	\$ (157.3)	\$ (181.3)
Other comprehensive income (loss) before reclassifications	0.0	13.4	13.4
Amounts reclassified from AOCI	1.5	13.7	15.2
Net OCI changes	1.5	27.1	28.6
Balances at December 31, 2021	\$ (22.5)	\$ (130.2)	\$ (152.7)
Other comprehensive income (loss) before reclassifications	0.0	(6.5)	(6.5)
Amounts reclassified from AOCI	1.5	3.0	4.5
Net OCI changes	1.5	(3.5)	(2.0)
Balances at December 31, 2022	\$ (21.0)	\$ (133.7)	\$ (154.7)

Amounts reclassified from AOCI to earnings are as follows:

<i>in millions</i>	2022	2021	2020
Amortization of Cash Flow Hedge Losses			
Interest expense	\$ 2.0	\$ 2.0	\$ 2.3
Benefit from income taxes	(0.5)	(0.5)	(0.6)
Total	\$ 1.5	\$ 1.5	\$ 1.7
Amortization of Pension and Postretirement Plan Actuarial Loss and Prior Service Cost			
Other nonoperating expense	\$ 4.0	\$ 18.5	\$ 31.2
Benefit from income taxes	(1.0)	(4.8)	(8.2)
Total	\$ 3.0	\$ 13.7	\$ 23.0
Total reclassifications from AOCI to earnings	\$ 4.5	\$ 15.2	\$ 24.7

NOTE 15: SEGMENT REPORTING

We have four operating (and reportable) segments organized around our principal product lines: Aggregates, Asphalt, Concrete and Calcium. Management reviews earnings from these reporting segments principally at the gross profit level.

The Aggregates segment produces and sells aggregates (crushed stone, sand and gravel, sand, and other aggregates) and related products and services. During 2022, the Aggregates segment principally served markets in twenty-two states, the U.S. Virgin Islands, Washington D.C., Freeport (Bahamas), British Columbia (Canada), Puerto Cortés (Honduras) and Quintana Roo (Mexico) — see Note 12, NAFTA Arbitration — with a full line of aggregates, and twelve additional states with railroad ballast and direct shipments to Hawaii. The 2021 acquisition of U.S. Concrete expanded our full line aggregates markets by two states (New Jersey and New York), the U.S. Virgin Islands, British Columbia (Canada), and direct shipments to Hawaii. Customers use aggregates primarily in the construction and maintenance of highways, streets and other public works and in the construction of housing and commercial, industrial and other nonresidential facilities. Customers are served by truck, rail and water distribution networks from our production facilities and sales yards. Due to the high weight-to-value ratio of aggregates, markets generally are local in nature. Quarries located on waterways and rail lines allow us to serve remote markets where local aggregates reserves may not be available.

The Asphalt segment produces and sells asphalt mix in six states: Alabama, Arizona, California, New Mexico, Tennessee and Texas, and includes asphalt construction paving in three states: Alabama, Tennessee and Texas.

The Concrete segment produces and sells ready-mixed concrete in five states (California, Maryland, Oklahoma, Texas and Virginia) in addition to the U.S. Virgin Islands and Washington D.C. In 2021, through our acquisition of U.S. Concrete, we entered the New Jersey, New York, Oklahoma, Pennsylvania and U.S. Virgin Islands concrete markets and expanded our existing markets in California, Texas and Washington D.C. In November 2022, we exited the New Jersey, New York and Pennsylvania concrete markets through a divestiture. In 2020, we exited the New Mexico ready-mixed concrete market through a divestiture. See Note 19 for additional information.

The Calcium segment consists of a Florida facility that mines, produces and sells calcium products.

Aggregates comprise approximately 95% of asphalt mix by weight and 80% of ready-mixed concrete by weight. Our Asphalt and Concrete segments are primarily supplied with their aggregates requirements from our Aggregates segment. These intersegment sales are made at local market prices for the particular grade and quality of product used in the production of asphalt mix and ready-mixed concrete and are excluded from total revenues. Customers for our Asphalt and Concrete segments are generally served locally at our production facilities or by truck. Because asphalt mix and ready-mixed concrete harden rapidly, delivery is time constrained and generally confined to a radius of approximately 20 to 25 miles from the producing facility.

The vast majority of our activities are domestic. We sell a relatively small amount of construction aggregates outside the United States. Total domestic revenues were \$7,263.9 million in 2022, \$5,532.0 million in 2021 and \$4,845.9 million in 2020. Nondomestic Aggregates segment revenues were \$51.3 million in 2022, \$20.2 million in 2021, \$11.0 million in 2020; there were no significant nondomestic revenues in our Asphalt, Concrete or Calcium segments. Long-lived assets outside the United States, which consist primarily of property, plant & equipment, were \$534.2 million in 2022, \$459.5 million in 2021, \$261.6 million in 2020. Equity method investments of \$26.5 million in 2022, 2021 and 2020 are included below in the identifiable assets for the Aggregates segment and in investments and long-term receivables on the accompanying Consolidated Balance Sheets.

SEGMENT FINANCIAL DISCLOSURE

<i>in millions</i>	2022	2021	2020
Total Revenues			
Aggregates ¹	\$ 5,272.8	\$ 4,345.0	\$ 3,944.3
Asphalt ²	990.2	777.8	792.6
Concrete	1,593.9	766.8	383.6
Calcium	7.8	6.9	7.7
Segment sales	\$ 7,864.7	\$ 5,896.5	\$ 5,128.2
Aggregates intersegment sales	(549.5)	(344.3)	(271.4)
Total revenues	\$ 7,315.2	\$ 5,552.2	\$ 4,856.8
Gross Profit			
Aggregates	\$ 1,408.5	\$ 1,295.7	\$ 1,159.2
Asphalt	57.3	21.2	75.2
Concrete	89.3	54.3	44.2
Calcium	2.6	2.2	2.9
Total	\$ 1,557.7	\$ 1,373.4	\$ 1,281.5
Depreciation, Depletion, Accretion & Amortization (DDA&A)			
Aggregates	\$ 441.1	\$ 360.4	\$ 321.1
Asphalt	35.1	36.0	35.0
Concrete	83.1	41.5	16.0
Calcium	0.2	0.2	0.2
Other	28.0	24.9	24.5
Total	\$ 587.5	\$ 463.0	\$ 396.8
Capital Expenditures ³			
Aggregates	\$ 540.3	\$ 423.1	\$ 331.9
Asphalt	23.3	9.3	19.8
Concrete	50.4	18.1	11.7
Calcium	0.1	0.0	0.0
Corporate	30.0	0.0	0.0
Total	\$ 644.1	\$ 450.5	\$ 363.4
Identifiable Assets ^{4, 5}			
Aggregates	\$ 11,575.2	\$ 10,917.8	\$ 9,459.2
Asphalt	597.6	602.0	573.1
Concrete	1,436.2	1,680.2	305.5
Calcium	3.8	4.0	3.3
Total identifiable assets	\$ 13,612.8	\$ 13,204.0	\$ 10,341.1
General corporate	460.3	237.1	147.8
Cash and cash equivalents and restricted cash	161.5	241.5	1,198.0
Total assets	\$ 14,234.6	\$ 13,682.6	\$ 11,686.9

¹ Includes product sales, as well as freight & delivery costs that we pass along to our customers, and service revenues (see Note 2) related to aggregates.

² Includes product sales, as well as service revenues (see Note 2) from our asphalt construction paving business.

³ Capital expenditures include changes in accruals for purchases of property, plant & equipment. Capital expenditures exclude property, plant & equipment obtained by business acquisitions.

⁴ Certain temporarily idled assets are included within a segment's Identifiable Assets but the associated DDA&A is shown within Other in the DDA&A section above as the related DDA&A is excluded from segment gross profit.

⁵ The 2022 and 2021 increases in Aggregates and 2021 increase in Concrete Identifiable Assets are largely attributable to business acquisitions (see Note 19).

NOTE 16: SUPPLEMENTAL CASH FLOW INFORMATION

Supplemental information referable to the Consolidated Statements of Cash Flows is summarized below:

<i>in millions</i>	2022	2021	2020
Cash Payments			
Interest (exclusive of amount capitalized)	\$ 164.3	\$ 138.0	\$ 129.2
Income taxes	143.5	127.9	95.9
Noncash Investing and Financing Activities			
Accruals for purchases of property, plant & equipment	\$ 108.7	\$ 71.4	\$ 55.9
Note received from sale of business	130.0	0.0	0.0
Debt issued for purchases of property, plant & equipment	0.0	0.0	2.6
Recognition of new and revised lease obligations for			
Operating lease right-of-use assets	44.8	106.9	49.6
Finance lease right-of-use assets	3.8	13.3	6.6
Consideration payable to seller in business acquisitions	65.4	0.0	9.0
Fair value of noncash assets and liabilities exchanged	0.0	0.0	21.2

NOTE 17: ASSET RETIREMENT OBLIGATIONS

Asset retirement obligations (AROs) are legal obligations associated with the retirement of long-lived assets resulting from the acquisition, construction, development and/or normal use of the underlying assets, including legal obligations for land reclamation. Recognition of a liability for an ARO is required in the period in which it is incurred at its estimated fair value. The associated asset retirement costs are capitalized as part of the carrying amount of the underlying asset and depreciated over the estimated useful life of the asset. The liability is accreted through charges to operating expenses. If the ARO is settled for other than the carrying amount of the liability, we recognize a gain or loss on settlement.

For the years ended December 31, ARO operating costs related to accretion of the liabilities and depreciation of the assets are as follows:

<i>in millions</i>	2022	2021	2020
ARO Operating Costs			
Accretion	\$ 14.1	\$ 13.1	\$ 12.4
Depreciation	9.4	10.6	8.6
Total	\$ 23.5	\$ 23.7	\$ 21.0

ARO operating costs are reported in cost of revenues. AROs are reported within other noncurrent liabilities in our accompanying Consolidated Balance Sheets.

Reconciliations of the carrying amounts of our AROs for the years ended December 31 are as follows:

<i>in millions</i>	2022	2021
Asset Retirement Obligations		
Balance at beginning of year	\$ 315.2	\$ 283.2
Liabilities incurred	8.2	19.2
Liabilities settled	(8.8)	(11.0)
Accretion expense	14.1	13.1
Revisions, net	(17.4)	10.7
Balance at end of year	\$ 311.3	\$ 315.2

NOTE 18: GOODWILL AND INTANGIBLE ASSETS

Acquired identifiable intangible assets are classified into three categories: (1) goodwill, (2) intangible assets with finite lives subject to amortization and (3) intangible assets with indefinite lives. Goodwill and intangible assets with indefinite lives are not amortized; rather, they are reviewed for impairment at least annually.

GOODWILL

Goodwill is recognized when the consideration paid for a business exceeds the fair value of the tangible and identifiable intangible assets acquired. Goodwill is allocated to reporting units for purposes of testing goodwill for impairment.

During the third quarter of 2022, we recorded an interim goodwill impairment loss of \$50.9 million related to the fourth quarter sale of a reporting unit comprised of concrete operations in New Jersey, New York and Pennsylvania. There were no charges for goodwill impairment in the years ended December 31, 2021 and 2020. Accumulated goodwill impairment losses amount to \$303.6 million (\$252.7 million in our former Cement segment and \$50.9 in our Concrete segment).

We have four reportable segments organized around our principal product lines: Aggregates, Asphalt, Concrete and Calcium. Changes in the carrying amount of goodwill by reportable segment for the three years ended December 31, 2022 are shown below:

<i>in millions</i>	<i>Aggregates</i>	<i>Asphalt</i>	<i>Concrete</i>	<i>Calcium</i>	<i>Total</i>
Goodwill					
Totals at December 31, 2020	\$ 3,080.5	\$ 91.6	\$ 0.0	\$ 0.0	\$ 3,172.1
Goodwill of acquired businesses ¹	236.1	0.0	288.5	0.0	524.6
Totals at December 31, 2021	\$ 3,316.6	\$ 91.6	\$ 288.5	\$ 0.0	\$ 3,696.7
Goodwill of acquired businesses ¹	13.7	0.0	30.1	0.0	43.8
Goodwill impairment	0.0	0.0	(50.9)	0.0	(50.9)
Totals at December 31, 2022	\$ 3,330.3	\$ 91.6	\$ 267.7	\$ 0.0	\$ 3,689.6

¹ See Note 19 for a summary of recent acquisitions.

We test goodwill for impairment on an annual basis or more frequently if events or circumstances change in a manner that would more likely than not reduce the fair value of a reporting unit below its carrying value. A decrease in the estimated fair value of one or more of our reporting units could result in the recognition of a material, noncash write-down of goodwill.

INTANGIBLE ASSETS

Intangible assets consist of contractual rights in place (primarily permitting and zoning rights), noncompetition agreements, customer relationships and trade names and trademarks. Intangible assets acquired in business combinations are stated at their fair value determined as of the date of acquisition. Intangible assets acquired individually or otherwise obtained outside a business combination consist primarily of permitting, permitting compliance and zoning rights and are stated at their historical cost less accumulated amortization. Costs incurred to renew or extend the life of existing intangible assets are capitalized. These capitalized renewal/extension costs were immaterial for the years presented.

See Note 19 for the details of the intangible assets acquired in business acquisitions during 2022, 2021 and 2020. Amortization of finite-lived intangible assets is computed based on the estimated life of the intangible assets. Contractual rights in place associated with aggregates reserves are amortized using the unit-of-sales method based on estimated recoverable units. Other intangible assets are amortized principally by the straight-line method. Intangible assets are reviewed for impairment when events or circumstances indicate that the carrying amount may not be recoverable. There were no material charges for impairment of intangible assets in 2022, 2021 and 2020.

The gross carrying amount and accumulated amortization by major intangible asset class for the years ended December 31 are summarized below:

<i>in millions</i>	2022	2021
Gross Carrying Amount		
Contractual rights in place	\$ 1,771.5	\$ 1,765.0
Permitting, permitting compliance and zoning rights	191.1	156.5
Other ¹	116.5	115.0
Total gross carrying amount	\$ 2,079.1	\$ 2,036.5
Accumulated Amortization		
Contractual rights in place	\$ (302.9)	\$ (230.9)
Permitting, permitting compliance and zoning rights	(49.0)	(39.1)
Other ¹	(25.1)	(17.5)
Total accumulated amortization	\$ (377.0)	\$ (287.5)
Total Intangible Assets Subject to Amortization, net	\$ 1,702.1	\$ 1,749.0
Intangible Assets with Indefinite Lives	0.0	0.0
Total Intangible Assets, net	1,702.1	1,749.0
Amortization Expense for the Year	\$ 97.6	\$ 68.2

¹ Includes noncompetition agreements, patents, customer relationships, tradenames and trademarks.

Estimated amortization expense for the five years subsequent to December 31, 2022 is as follows:

<i>in millions</i>		
Estimated Amortization Expense for Five Subsequent Years		
2023	\$	86.9
2024		85.1
2025		83.3
2026		83.0
2027		82.5

NOTE 19: ACQUISITIONS AND DIVESTITURES

BUSINESS ACQUISITIONS

2022 BUSINESS ACQUISITIONS — During 2022, we purchased the following operations for total consideration of \$594.6 million (\$529.2 million cash and \$65.4 million noncash):

- California — eight aggregates, four asphalt mix and seven ready-mixed concrete operations
- Texas — five aggregates operations
- Virginia — four ready-mixed concrete operations and two idle ready-mixed concrete sites
- Honduras — an aggregates operation serving limited markets along the Gulf Coast

The 2022 acquisitions listed above are reported in our consolidated financial statements as of their respective acquisition dates. None of these acquisitions were material to our results of operations either individually or collectively, and acquisition related expenses were immaterial. The fair value of consideration transferred for these 2022 acquisitions and the preliminary amounts (pending final appraisals of intangible assets and property, plant & equipment and related deferred taxes) of assets acquired and liabilities assumed are summarized below:

<i>in millions</i>	<i>December 31 2022</i>
Fair Value of Purchase Consideration	
Cash	\$ 529.2
Payable to seller	65.4
Total fair value of purchase consideration	\$ 594.6
Identifiable Assets Acquired and Liabilities Assumed	
Accounts and notes receivable, net	\$ 28.0
Inventories	15.4
Other current assets	2.1
Property, plant & equipment	498.6
Intangible assets	
Contractual rights in place	72.3
Deferred income taxes, net	(12.5)
Other liabilities assumed	(21.8)
Net identifiable assets acquired	\$ 582.1
Goodwill	\$ 12.5

As a result of the 2022 acquisitions, we recognized \$72.3 million of amortizable intangible assets and \$12.5 million of goodwill. The amortizable intangible assets will be amortized against earnings over a weighted-average of 15 years and will be deductible for income tax purposes over 15 years. The \$12.5 million of goodwill recognized represents deferred tax liabilities generated from carrying over the seller's tax basis in the assets acquired. None of the goodwill recognized will be deductible for income tax purposes.

2021 BUSINESS ACQUISITIONS — On August 26, 2021, we purchased the following operations in connection with the acquisition of U.S. Concrete, Inc. for total consideration of \$1,634.5 million, net of cash acquired:

- British Columbia, Canada — aggregates and aggregates blue-water transportation operations
- California — aggregates distribution terminals and concrete operations
- New Jersey — aggregates and concrete operations
- New York — aggregates and concrete operations
- Oklahoma — aggregates and concrete operations
- Pennsylvania — concrete operations
- Texas — aggregates and concrete operations
- U.S. Virgin Islands — aggregates and concrete operations
- Washington, D.C. — concrete operations

The amounts of total revenues and net earnings attributable to Vulcan from the U.S. Concrete acquisition are included in our Consolidated Statement of Comprehensive Income for the year ended December 31, 2021 as follows:

<i>in millions</i>	<i>2021</i>
Actual Results	
Total revenues	\$ 466.3
Net loss attributable to Vulcan	(19.7)

The unaudited pro forma financial information in the table below summarizes the results of operations for Vulcan and U.S. Concrete as if they were combined as of January 1, 2020. The pro forma financial information does not reflect any cost savings, operating efficiencies or synergies as a result of this combination. Consistent with the assumed acquisition date of January 1, 2020, the pro forma information excludes transactions between Vulcan and U.S. Concrete. The following pro forma information also includes: 1) charges directly attributable to the acquisition, 2) cost of sales related to the sale of acquired inventory marked up to fair value, 3) depreciation, depletion, amortization & accretion expense related to the mark up to fair value of acquired assets, and 4) interest expense and debt retirement costs reflecting the new debt structure:

<i>in millions</i>	<i>2021</i>	<i>2020</i>
Supplemental Pro Forma Results		
Total revenues	\$ 6,361.5	\$ 6,182.8
Net earnings attributable to Vulcan	688.6	551.9

The unaudited pro forma results above may not be indicative of the results that would have been obtained had this acquisition occurred at the beginning of 2020, nor does it intend to be a projection of future results.

The fair value of consideration transferred for the U.S. Concrete acquisition and the amounts of assets acquired and liabilities assumed are summarized below:

<i>in millions</i>	<i>December 31 2022</i>
Fair Value of Purchase Consideration	
Cash ¹	\$ 1,634.5
Total fair value of purchase consideration	\$ 1,634.5
Identifiable Assets Acquired and Liabilities Assumed	
Accounts and notes receivable, net	\$ 235.6
Inventories	80.6
Other current assets	8.7
Property, plant & equipment	1,086.2
Operating lease right-of-use assets	217.6
Intangible assets	
Contractual rights in place	622.6
Other intangibles	60.3
Other noncurrent assets	5.3
Deferred income taxes, net	(226.1)
Debt assumed	(443.7)
Other liabilities assumed	(546.2)
Noncontrolling interest	(22.3)
Net identifiable assets acquired	\$ 1,078.6
Goodwill	\$ 555.9

¹ Includes \$1,268.5 million paid to acquire all issued and outstanding shares of U.S. Concrete common stock and \$384.4 million of U.S. Concrete obligations paid on the acquisition date, less \$18.4 million of cash acquired.

Additionally, during 2021 we purchased concrete operations in California for total consideration of \$4.9 million.

As a collective result of the 2021 acquisitions, we recognized \$685.5 million of amortizable intangible assets and \$555.9 million of goodwill, representing an increase in goodwill of \$31.3 million from December 31, 2021 (see Note 18 for subsequent impairment of a portion of this goodwill). The amortizable intangible assets will be amortized against earnings over a weighted-average period in excess of 15 years. The \$555.9 million of goodwill recognized represents deferred tax liabilities generated from carrying over the seller's tax basis in the assets acquired and synergies expected to be realized from acquiring an established business with assets that have been assembled over a long period of time — the collection of those assets combined with our assets can earn a higher rate of return than either individually. Of the total goodwill recognized, \$108.5 million will be deductible for income tax purposes.

2020 BUSINESS ACQUISITIONS — During 2020, we purchased the following operations for total consideration of \$73.4 million (\$43.2 million cash and \$30.2 million noncash):

- Business to support our aggregates operations across most of our footprint
- Texas — asphalt mix and recycle operations

The 2020 acquisitions listed above are reported in our consolidated financial statements as of their respective acquisition dates. None of these acquisitions were material to our results of operations or financial position either individually or collectively.

As a result of the 2020 acquisitions, we recognized \$65.5 million of amortizable intangible assets and \$5.1 million of goodwill. The amortizable intangible assets will be amortized against earnings (\$65.5 million - straight-line basis over a weighted-average 20.0 years) and \$25.7 million will be deductible for income tax purposes over 15 years. The goodwill represents the balance of deferred tax liabilities generated from carrying over the seller's tax basis in the assets acquired and is not deductible for income tax purposes.

DIVESTITURES AND PENDING DIVESTITURES

In 2022, we sold:

- Fourth quarter — concrete operations in New Jersey, New York and Pennsylvania resulting in a third quarter impairment charge of \$67.8 million and a fourth quarter loss on sale of \$17.4 million (the assets were written down to fair value less cost to sell in the third quarter – see Note 1 “Summary of Significant Accounting Policies” under the caption Fair Value Measurements and Note 18 “Goodwill and Intangible Assets”)
- Third quarter — excess real estate in Southern California resulting in a pretax gain of \$23.5 million

In 2021, we sold:

- First quarter — a reclaimed quarry in Southern California resulting in a pretax gain of \$114.7 million (net of a \$12.9 million contingency and other directly related obligations)

In 2020, we sold:

- Fourth quarter — a Virginia ready-mixed concrete business, resulting in an immaterial loss. We retained all real property which is being leased to the buyer and obtained a 20-year aggregates supply agreement
- Second quarter — our New Mexico ready-mixed concrete business, resulting in an immaterial gain. We retained the concrete plants and mobile fleet and are leasing those assets to the buyer. Additionally, we obtained a 20-year aggregates supply agreement

No material assets met the criteria for held for sale at December 31, 2022, 2021 or 2020.

None.

DISCLOSURE CONTROLS AND PROCEDURES

We maintain a system of controls and procedures designed to ensure that information required to be disclosed in reports we file with the SEC is recorded, processed, summarized and reported within the time periods specified by the SEC's rules and forms. These disclosure controls and procedures (as defined in the Securities Exchange Act of 1934 Rules 13a - 15(e) or 15d - 15(e)), include, without limitation, controls and procedures designed to ensure that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosure. Our Chief Executive Officer and Chief Financial Officer, with the participation of other management officials, evaluated the effectiveness of the design and operation of the disclosure controls and procedures as of December 31, 2022. Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of December 31, 2022.

We are in the process of replacing our legacy quote to cash software system for our ready-mixed concrete operations. We expect the full implementation of this system to be completed in the fourth quarter of 2023.

On August 26, 2021, we completed our acquisition of U.S. Concrete, which operated under its own set of systems and internal controls. We completed the process of integrating U.S. Concrete processes to our internal control over financial reporting environment in the fourth quarter of 2022.

No other changes were made during the fourth quarter of 2022 to our internal controls over financial reporting, nor have there been other factors that materially affect these controls.

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Our management is responsible for establishing and maintaining an adequate system of internal control over financial reporting as required by the Sarbanes-Oxley Act of 2002 and as defined in Securities Exchange Act Rule 13a-15(f).

Under management's supervision, an evaluation of the design and effectiveness of our internal control over financial reporting was conducted based on the framework in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, management concluded that our internal control over financial reporting was effective as of December 31, 2022.

Deloitte & Touche LLP, an independent registered public accounting firm, as auditors of our consolidated financial statements, has issued an attestation report on the effectiveness of our internal control over financial reporting as of December 31, 2022. Deloitte & Touche LLP's report, which expresses an unqualified opinion on the effectiveness of our internal control over financial reporting, follows this report.

LIMITATIONS OF EFFECTIVENESS OF CONTROLS AND PROCEDURES

In designing and evaluating our disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply its judgment in evaluating the benefits of possible controls and procedures relative to their costs.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM – INTERNAL CONTROL OVER FINANCIAL REPORTING

To the shareholders and Board of Directors of Vulcan Materials Company:

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Vulcan Materials Company and subsidiaries (the “Company”) as of December 31, 2022, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2022, of the Company and our report dated February 24, 2023, expressed an unqualified opinion on those financial statements.

Basis for Opinion

The Company’s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management’s Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company’s internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

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

/s/ DELOITTE & TOUCHE LLP

Birmingham, Alabama

February 24, 2023

ITEM 9B
OTHER INFORMATION

None.

ITEM 9C
DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III

ITEM 10

DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

On or about March 27, 2023, we expect to file a definitive proxy statement with the Securities and Exchange Commission pursuant to Regulation 14A (our “2023 Proxy Statement”). The information under the headings “Proposal 1 - Election of Directors,” “Corporate Governance – Policies,” “Corporate Governance – Director Nomination Process,” “Corporate Governance – Committees of the Board of Directors” and “Delinquent Section 16(a) Reports” (to the extent reported therein) included in our 2023 Proxy Statement is incorporated herein by reference. See also the information about our executive officers and governance policies set forth above in Part I of this report.

ITEM 11

EXECUTIVE COMPENSATION

The information under the headings “Compensation Discussion and Analysis,” “Director Compensation,” “Executive Compensation,” “Corporate Governance – Compensation Committee Interlocks and Insider Participation,” and “Compensation Committee Report” included in our 2023 Proxy Statement is incorporated herein by reference.

ITEM 12

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information under the headings “Security Ownership of Certain Beneficial Owners and Management,” and “Equity Compensation Plans” included in our 2023 Proxy Statement is incorporated herein by reference.

ITEM 13

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information under the headings “Corporate Governance – Director Independence,” and “Corporate Governance – Transactions with Related Persons” included in our 2023 Proxy Statement is incorporated herein by reference.

ITEM 14

PRINCIPAL ACCOUNTING FEES AND SERVICES

The information under the heading “Independent Registered Public Accounting Firm” included in our 2023 Proxy Statement is incorporated herein by reference.

PART IV

ITEM 15

EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) (1) Financial statements

The following financial statements are included herein on the pages shown below:

	<i>Page in Report</i>
Report of Independent Registered Public Accounting Firm (PCAOB ID 34)	74 – 76
Consolidated Statements of Comprehensive Income	77
Consolidated Balance Sheets	78
Consolidated Statements of Cash Flows	79
Consolidated Statements of Equity	80
Notes to Consolidated Financial Statements	81 – 130

(a) (2) Financial statement schedules

Financial statement schedules are omitted because of the absence of conditions under which they are required or because the required information is provided in the financial statements or notes thereto.

Financial statements (and summarized financial information) of 50% or less owned entities accounted for by the equity method have been omitted because they do not, considered individually or in the aggregate, constitute a significant subsidiary.

(a) (3) Exhibits

Exhibit 3(a)	Certificate of Incorporation (Restated 2007) of the Company (formerly known as Virginia Holdco, Inc.), filed as Exhibit 3.1 to the Company's Current Report on Form 8-K on November 16, 2007 ¹
Exhibit 3(b)	Amended and Restated By-Laws of the Company (as amended through December 9, 2022) filed as Exhibit 3.1 to the Company's Current Report on Form 8-K filed on December 12, 2022 ¹
Exhibit 4(a)	Senior Debt Indenture, dated as of December 11, 2007, between the Company and Wilmington Trust Company, as Trustee, filed as Exhibit 4.1 to the Company's Current Report on Form 8-K on December 11, 2007 ¹
Exhibit 4(b)	First Supplemental Indenture, dated as of December 11, 2007, between Vulcan Materials Company and Wilmington Trust Company, as Trustee, to that certain Senior Debt Indenture, dated as of December 11, 2007, between the Company and Wilmington Trust Company, as Trustee, filed as Exhibit 4.2 to the Company's Current Report on Form 8-K on December 11, 2007 ¹
Exhibit 4(c)	Second Supplemental Indenture, dated June 20, 2008 between the Company and Wilmington Trust Company, as Trustee, to that certain Senior Debt Indenture dated as of December 11, 2007, filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed on June 20, 2008 ¹
Exhibit 4(d)	Third Supplemental Indenture, dated February 3, 2009, between the Company and Wilmington Trust Company, as Trustee, to that certain Senior Debt Indenture dated as of December 11, 2007 filed as Exhibit 10(f) to the Company's Annual Report on Form 10-K filed on March 2, 2009 ¹
Exhibit 4(e)	Fourth Supplemental Indenture, dated June 14, 2011, between the Company and Wilmington Trust Company, as Trustee, filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed on June 15, 2011 ¹

Exhibit 4(f)	Fifth Supplemental Indenture, dated March 30, 2015, between the Company and Regions Bank, as Trustee, filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed on March 30, 2015 ¹
Exhibit 4(g)	Sixth Supplemental Indenture, dated March 14, 2017, between the Company and Regions Bank, as Trustee, filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed on March 14, 2017 ¹
Exhibit 4(h)	Seventh Supplemental Indenture, dated as of June 15, 2017, between Vulcan Materials Company and Regions Bank, as Trustee, filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed on June 15, 2017 ¹
Exhibit 4(i)	Eighth Supplemental Indenture, dated as of February 23, 2018, between Vulcan Materials Company and Regions Bank, as Trustee, filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed on February 23, 2018 ¹
Exhibit 4(j)	Ninth Supplemental Indenture, dated as of May 18, 2020, between Vulcan Materials Company and Regions Bank as Trustee, filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed on May 18, 2020 ¹
Exhibit 4(k)	Indenture, dated as of May 1, 1991, by and between Legacy Vulcan Corp. (formerly Vulcan Materials Company) and First Trust of New York (as successor trustee to Morgan Guaranty Trust Company of New York) filed as Exhibit 4 to the Form S-3 on May 2, 1991 (Registration No. 33-40284) ¹
Exhibit 4(l)	Supplemental Indenture No. 1, dated as of November 16, 2007, among the Company, Legacy Vulcan Corp. and The Bank of New York, as Trustee, filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed on November 21, 2007 ¹
Exhibit 4(m)	Supplemental Indenture No. 2, dated as of June 30, 2015, between Legacy Vulcan, LLC and The Bank of New York Mellon Trust Company, N.A., as Trustee, filed as Exhibit 4(a) to the Company's Quarterly Report on Form 10-Q filed on August 5, 2015 ¹
Exhibit 4(n)	Indenture, dated as of February 23, 2018, between Vulcan Materials Company and Regions Bank, as Trustee, filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed on February 26, 2018 ¹
Exhibit 4(o)	Description of Securities
Exhibit 10(a)	Credit Agreement, dated as of September 10, 2020, among Vulcan Materials Company, Truist Bank, as Administrative Agent, and the Lenders and other parties named therein, filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed on September 11, 2020 ¹
Exhibit 10(b)	Credit Agreement, dated June 30, 2021, among Vulcan Materials Company, Truist Bank, as Administrative Agent, and the Lenders and other parties named therein, filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed on July 1, 2021 ¹
Exhibit 10(c)	First Amendment to Credit Agreement, dated June 30, 2021, among Vulcan Materials Company, Truist Bank, as Administrative Agent, and the Lenders and other parties named therein, filed as Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed on August 5, 2021 ¹
Exhibit 10(d)	First Amendment to Credit Agreement, dated August 16, 2021, by and between Vulcan Materials Company and Truist Bank, as Administrative Agent, filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed on November 5, 2021 ¹
Exhibit 10(e)	Second Amendment to Credit Agreement, dated August 16, 2021, by and between Vulcan Materials Company and Truist Bank, as Administrative Agent, filed as Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed on November 5, 2021 ¹
Exhibit 10(f)	Second Amendment to Credit Agreement, dated March 18, 2022, by and between Vulcan Materials Company and Truist Bank, as Administrative Agent, filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed on May 5, 2022 ¹

Exhibit 10(g)	Third Amendment to Credit Agreement, dated March 18, 2022, by and between Vulcan Materials Company and Truist Bank, as Administrative Agent, filed as Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed on May 5, 2022 ¹
Exhibit 10(h)	Fourth Amendment to Credit Agreement, dated as of August 8, 2022, among Vulcan Materials Company, Truist Bank, as Administrative Agent, and the Lenders and other parties named therein, filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed on August 9, 2022 ¹
Exhibit 10(i)	Unfunded Supplemental Benefit Plan for Salaried Employees, as amended, filed as Exhibit 10.4 to the Company's Current Report on Form 8-K filed on December 17, 2008 ^{1,2}
Exhibit 10(j)	Amendment No. 1 to the Unfunded Supplemental Benefit Plan for Salaried Employees filed as Exhibit 10.1 to the Company's Current Report on Form 8-K on January 7, 2014 ^{1,2}
Exhibit 10(k)	Deferred Compensation Plan for Directors Who Are Not Employees of the Company, as amended, filed as Exhibit 10.5 to the Company's Current Report on Form 8-K filed on December 17, 2008 ^{1,2}
Exhibit 10(l)	Executive Deferred Compensation Plan, as amended, filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed on December 17, 2008 ^{1,2}
Exhibit 10(m)	Form of Change of Control Employment Agreement dated January 1, 2016, filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed on January 7, 2016 ^{1,2}
Exhibit 10(n)	Vulcan Materials Company Change of Control Severance Plan for Senior Officers, effective January 1, 2016, filed as Exhibit 10(m) to the Company's Annual Report on Form 10-K filed on February 25, 2016 ^{1,2}
Exhibit 10(o)	Executive Incentive Plan of the Company, as amended, filed as Exhibit 10.2 to the Company's Current Report on Form 8-K filed on December 17, 2008 ^{1,2}
Exhibit 10(p)	Vulcan Materials Company 2016 Omnibus Long-Term Incentive Plan, filed as Exhibit 99 to the Company's Registration Statement on Form S-8 (File No. 333-211349) filed on May 13, 2016 ^{1,2}
Exhibit 10(q)	Form of Non-Employee Director Deferred Stock Unit Agreement under the Vulcan Materials Company 2016 Omnibus Long-Term Incentive Plan, filed as Exhibit 10(y) to the Company's Quarterly Report on Form 10-Q filed on August 3, 2016 ^{1,2}
Exhibit 10(r)	Form of Stock-Only Stock Appreciation Rights Award Agreement under the Vulcan Materials Company 2016 Omnibus Long-Term Incentive Plan, filed as Exhibit 10(z) to the Company's Quarterly Report on Form 10-Q filed on August 3, 2016 ^{1,2}
Exhibit 10(s)	Form of Restricted Stock Unit Award Agreement under the Vulcan Materials Company 2016 Omnibus Long-Term Incentive Plan, filed as Exhibit 10(aa) to the Company's Quarterly Report on Form 10-Q filed on August 3, 2016 ^{1,2}
Exhibit 10(t)	Form of Performance Share Unit Award Agreement under the Vulcan Materials Company 2016 Omnibus Long-Term Incentive Plan, filed as Exhibit 10(bb) to the Company's Quarterly Report on Form 10-Q filed on August 3, 2016 ^{1,2}
Exhibit 10(u)	Offer Letter, dated as of June 19, 2018, by and between Suzanne H. Wood and Vulcan Materials Company, filed as Exhibit 10.2 to the Company's Current report on Form 8-K filed on July 10, 2018 ^{1,2}
Exhibit 10(v)	Form of Performance Share Unit Award Agreement (2019) under the Vulcan Materials Company 2016 Omnibus Long-Term Incentive Plan, filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed on May 3, 2019 ^{1,2}
Exhibit 10(w)	Form of Performance Share Unit Award Agreement (2020) under the Vulcan Materials Company 2016 Omnibus Long-Term Incentive Plan, filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed on May 6, 2020 ^{1,2}

Exhibit 10(x)	Form of Stock-Only Appreciation Rights Award Agreement (2020) under the Vulcan Materials Company 2016 Omnibus Long-Term Incentive Plan, filed as Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed on May 6, 2020 ^{1,2}
Exhibit 10(y)	Form of Restricted Stock Unit Award Agreement (2020) under the Vulcan Materials Company 2016 Omnibus Long-Term Incentive Plan, filed as Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed on May 6, 2020 ^{1,2}
Exhibit 10(z)	Form of Non-Employee Director Restricted Stock Unit Award Agreement under the Vulcan Materials Company 2016 Omnibus Long-Term Incentive Plan filed as Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed on August 5, 2020 ^{1,2}
Exhibit 10(aa)	Independent Contractor Consulting Agreement, dated August 31, 2022, between the Company and Suzanne H. Wood, filed as Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed on November 3, 2022 ^{1,2}
Exhibit 21	List of the Company's material subsidiaries as of December 31, 2022
Exhibit 23	Consent of Deloitte & Touche LLP, Independent Registered Public Accounting Firm
Exhibit 24	Powers of Attorney
Exhibit 31(a)	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
Exhibit 31(b)	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
Exhibit 32(a)	Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
Exhibit 32(b)	Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
Exhibit 95	MSHA Citations and Litigation
Exhibit 101	The following financial information from this Annual Report on Form 10-K for the year ended December 31, 2022 are formatted in iXBRL (Inline eXtensible Business Reporting Language): (i) the Consolidated Statements of Comprehensive Income, (ii) the Consolidated Balance Sheets, (iii) the Consolidated Statements of Cash Flows, (iv) the Consolidated Statements of Equity and (v) the Notes to Consolidated Financial Statements.
Exhibit 104	Cover Page Interactive Data File – the cover page from this Annual Report on Form 10-K for the year ended December 31, 2022 is formatted in iXBRL (contained in Exhibit 101).

¹ Incorporated by reference.

² Management contract or compensatory plan.

Our SEC file number for documents filed with the SEC pursuant to the Securities Exchange Act of 1934, as amended, is 001-33841.

We have chosen not to include an optional summary of the information required by this Form 10-K.




Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on February 24, 2023.

VULCAN MATERIALS COMPANY



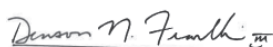
J. Thomas Hill
Chairman, President and Chief Executive Officer

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

Signature	Title	Date
 J. Thomas Hill	Chairman, President and Chief Executive Officer (Principal Executive Officer)	February 24, 2023
 Mary Andrews Carlisle	Senior Vice President and Chief Financial Officer (Principal Financial Officer)	February 24, 2023
 Randy L. Pigg	Vice President, Controller (Principal Accounting Officer)	February 24, 2023

The following directors:

Melissa H. Anderson	Director
Thomas A. Fanning	Director
O. B. Grayson Hall, Jr.	Director
Cynthia L. Hostetler	Director
Lydia H. Kennard	Director
Richard T. O'Brien	Director
James T. Prokopanko	Director
Kathleen L. Quirk	Director
David P. Steiner	Director
Lee J. Styslinger, III	Director
George Willis	Director



Denson N. Franklin III
Attorney-in-Fact

February 24, 2023

Vulcan Materials Company (“Vulcan” or the “Company”) has one class of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). Vulcan’s common stock is registered under Section 12(b) of the Exchange Act and is listed on the New York Stock Exchange under the symbol “VMC”.

The following is a summary of the material terms of Vulcan’s capital stock. This summary is not complete and is qualified by reference to the Company’s Restated Certificate of Incorporation (the “Certificate of Incorporation”) and its Amended and Restated By-Laws (the “By-Laws”). The Certificate of Incorporation and the By-Laws are filed as exhibits to the Company’s most recent Annual Report on Form 10-K and are incorporated by reference herein.

Capital Stock

Vulcan’s authorized capital stock consists of 480,000,000 shares of common stock, \$1.00 par value (“Common Stock”), and 5,000,000 shares of preference stock, without par value (“Preference Stock”). The number of shares of Common Stock issued and outstanding as of a recent date is set forth on the cover page of the most recent Annual Report on Form 10-K or Quarterly Report on Form 10-Q filed by the Company with the Securities and Exchange Commission (“SEC”).

Common Stock

Holders of Common Stock are entitled to one vote per share on all matters to be voted upon by the shareholders. Subject to preferences that may be applicable to any outstanding Preference Stock, the holders of Common Stock are entitled to receive ratably such dividends, if any, as may be declared from time to time by the Company’s board of directors out of funds legally available therefor. In the event of the Company’s liquidation, dissolution or winding up, holders of Common Stock are entitled to share ratably in all assets remaining after payment of liabilities, subject to prior liquidation rights of Preference Stock, if any, then outstanding. The Common Stock has no preemptive or conversion rights or other subscription rights. There are no redemption or sinking fund provisions applicable to the Common Stock. All outstanding shares of Common Stock are fully paid and non-assessable.

The transfer agent for the Common Stock is Computershare Shareowner Services, LLC, 480 Washington Blvd, Jersey City, NJ 07310.

Preference Stock

Under the Certificate of Incorporation, the Company is authorized to issue up to 5,000,000 shares of Preference Stock. The Company’s board of directors has been authorized to provide for the issuance of shares of Preference Stock in multiple series without the approval of shareholders. With respect to each series of Preference Stock, Vulcan’s board of directors has the authority to fix the following terms:

- the designation of the series;
- the number of shares within the series;
- whether dividends are cumulative and, if cumulative, the dates from which dividends are cumulative;
- the rate of any dividends, any conditions upon which dividends are payable, and the dates of payment of dividends;
- whether the shares are redeemable, the redemption price and the terms of redemption;
- the establishment of a sinking fund, if any, for the purchase or redemption of shares;
- the amount payable to holders for each share they hold if the Company dissolves or liquidates;
- whether the shares are convertible or exchangeable, the price or rate of conversion or exchange, and the applicable terms and conditions;

- any restrictions on issuance of shares in the same series or any other series;
- any voting rights applicable to the series of Preference Stock;
- the seniority or parity of the dividends or assets of the series with respect to other series of Preference Stock;
- whether the holders will be entitled to any preemptive or preferential rights to purchase additional securities; and
- any other rights, preferences or limitations of such series.

Vulcan will file a copy of the amendment to the Certificate of Incorporation that contains the terms of each new series of Preference Stock with the SEC each time it establishes a new series of Preference Stock. Each such amendment to the Certificate of Incorporation will establish the number of shares included in a designated series and fix the designation, powers, privileges, preferences and rights of the shares of each series as well as any applicable qualifications, limitations or restrictions.

A holder's rights with respect to shares of Preference Stock held by such holder will be subordinate to the rights of Vulcan's general creditors. Shares of Preference Stock that the Company issues will be fully paid and nonassessable, and will not be entitled to preemptive rights unless specified in the applicable amendment to the Certificate of Incorporation.

Certain Provisions of the Certificate of Incorporation, By-Laws and New Jersey Law

Authorized but Unissued Shares

Authorized but unissued shares of Common Stock or Preference Stock can be reserved for issuance by Vulcan's board of directors from time to time, without shareholder action, for stock dividends or stock splits, to raise equity capital and to structure future corporate transactions, including acquisitions, as well as for other corporate purposes. This ability to issue shares, or rights to purchase shares of Preference Stock, could discourage an unsolicited acquisition proposal. In this regard, the Company could impede a business combination by issuing a series of Preference Stock containing class voting rights that would enable the holders of such Preference Stock to block a business combination transaction. Alternatively, the Company could facilitate a business combination transaction by issuing a series of Preference Stock having sufficient voting rights to provide a required percentage vote of the shareholders. Additionally, under certain circumstances, Vulcan's issuance of Preference Stock could adversely affect the voting power of the holders of Common Stock. Although Vulcan's board of directors is required to make any determination to issue any Preference Stock based on its judgment as to the best interests of the Company's shareholders, the board of directors could act in a manner that would discourage an acquisition attempt or other transaction that some, or a majority, of the Company's shareholders might believe to be in their best interests or in which shareholders might receive a premium for their stock over prevailing market prices of such stock. Vulcan's board of directors does not at present intend to seek shareholder approval prior to any issuance of currently authorized stock, unless otherwise required by law or applicable New York Stock Exchange requirements.

Classified Board of Directors

Under the Certificate of Incorporation and the By-Laws, Vulcan's board of directors is classified into three classes of directors, with the term of office of one class expiring each year and the number of directors in each class being as nearly equal as possible. Each class of directors serves a staggered three-year term. This classification increases the difficulty of replacing a majority of the directors and may discourage a third party from making a tender offer or otherwise attempting to gain control of the Company.

Advance Notice of Proposals and Nominations and Proxy Access

Under the By-Laws, shareholder proposals and nominations for election at Vulcan's annual meeting of shareholders or at a special meeting of shareholders (which may only be called by the board of directors, the chair of the board of directors, or the chief executive officer and at which shareholders may only make nominations for director) may be made by any shareholder entitled to vote only if the shareholder gives timely written notice to the Secretary of the Company. In the case of an annual meeting of shareholders, notice will generally be considered timely if it is delivered to the Secretary of the Company at Vulcan's principal executive offices not earlier than the close of business on the 120th day and not later than the close of business on the 90th day prior to the first anniversary of the preceding year's annual meeting. In the case of a special meeting of shareholders, notice will generally be considered timely if it is delivered to the Secretary of the Company not earlier than the close of business on the 120th day and not later than the close of business on the 90th day prior to the meeting date. The By-laws also specify requirements as to the form and content of a shareholder's notice, including with respect to a shareholder's notice under Rule 14a-19 of the Exchange Act.

In addition, under the By-Laws, shareholder nominations for election at Vulcan's annual meeting of shareholders may be made pursuant to the "proxy access" provisions included therein, which permit a shareholder, or a group of up to 20 shareholders, owning 3% or more of Vulcan's outstanding common stock continuously for at least three years, to nominate and include in Vulcan's annual meeting proxy materials director nominees constituting up to the greater of (a) two individuals and (b) 20% of the total number of directors serving on the board of directors on the last day on which a proxy access nomination may be submitted (rounded down to the nearest whole number), subject to certain limitations and provided that the requirements set forth in the By-Laws are satisfied, including that the shareholder gives timely written notice to the Secretary of the Company. Notice will generally be considered timely if it is delivered to the Secretary of the Company at Vulcan's principal executive offices not less than 120 days nor more than 150 days prior to the anniversary of the date that the corporation mailed its proxy statement for the prior year's annual meeting of shareholders.

Supermajority Voting Provisions

The Certificate of Incorporation contains a "fair price" provision that applies to certain business combination transactions involving any person that beneficially owns at least 10% of the aggregate voting power of Vulcan's outstanding capital stock ("Voting Stock") or that is an affiliate of the Company that has been the beneficial owner of at least 10% of the Voting Stock at any time in the past two years, or any assignee of Voting Stock from such a person, each of these an "Interested Shareholder." The "fair price" provision requires the affirmative vote of the holders of at least 80% of the Voting Stock to approve any such transaction.

This voting requirement will not apply to certain transactions, including:

- any transaction in which, among other requirements, the consideration to be received by the holders of each class of capital stock is equal to the highest of (1) the highest price per share paid by the Interested Shareholder on the date the person first became an Interested Shareholder; (2) the highest price per share the Interested Shareholder paid for a share of such class, which purchase was consummated in the past two years; (3) the fair market value per share of the same class on the day such transaction was announced; and (4) the fair market value per share of the same class on the day the person became an Interested Shareholder; or
- any transaction that is approved by Vulcan's continuing directors (as defined in the Certificate of Incorporation).

This provision could have the effect of delaying or preventing change in control in a transaction or series of transactions that did not satisfy the "fair price" criteria.

The provisions of the Certificate of Incorporation relating to the "fair price" provision may be amended only by the affirmative vote of the holders of at least 80% of the aggregate Voting Stock.

New Jersey Anti-Takeover Statute

New Jersey has adopted a type of anti-takeover statute known as a “business combination” statute. Subject to numerous qualifications and exceptions, the statute prohibits an interested shareholder of a corporation from effecting a business combination with the corporation for a period of five years unless, prior to the shareholder becoming an interested shareholder, (i) the corporation’s board approved the combination or (ii) the corporation’s board approved the transaction or series of transactions which caused the person to become an interested shareholder and any subsequent business combination with that interested shareholder is approved by independent members of the board and the holders of a majority of the voting stock not beneficially owned by the interested shareholder. In addition, but not in limitation of the five-year restriction, if applicable, corporations such as Vulcan covered by the New Jersey statute may not engage at any time in a business combination with any interested shareholder of that corporation unless the combination is approved by the board prior to the interested shareholder’s stock acquisition date, the combination receives the approval of two-thirds of the voting stock of the corporation not beneficially owned by the interested shareholder, or the combination meets minimum financial terms specified by the statute. An “interested shareholder” for this purpose is defined to include any beneficial owner of 10% or more of the voting power of the outstanding voting stock of the corporation or an affiliate or associate of the company who, within the prior five-year period, has at any time owned 10% or more of the voting power. The term “business combination” is defined broadly to include, among other things:

- the merger or consolidation of the corporation with the interested shareholder or any corporation that after the merger or consolidation would be an affiliate or associate of the interested shareholder;
- the sale, lease, exchange, mortgage, pledge, transfer or other disposition to an interested shareholder or any affiliate or associate of the interested shareholder of 10% or more of the corporation’s assets; or
- the issuance or transfer to an interested shareholder or any affiliate or associate of the interested shareholder of 5% or more of the aggregate market value of the stock of the corporation.

The application of the anti-takeover statute to Vulcan could delay, defer or prevent a change of control of the Company or discourage, impede or prevent a merger, tender offer, proxy contest or other transaction, even if such action would be favorable to the interests of Vulcan’s shareholders.

SUBSIDIARIES AS OF DECEMBER 31, 2022

	State or Other Jurisdiction of Incorporation or Organization	% Owned Directly or Indirectly by Vulcan
Aggregates USA, LLC	Delaware	100
Aggregates USA (Augusta), LLC	Delaware	100
Aggregates USA (Macon), LLC	Delaware	100
Aggregates USA (Savannah), LLC	Delaware	100
Aggregates USA (Sparta), LLC	Delaware	100
Agregados Del Caribe, LTDA	Honduras	100
Agrecasa Holdings, B.V.	Netherlands	100
American Concrete Products, Inc.	California	100
Arundel Company, LLC	Delaware	100
Atlantic Granite Company, LLC	South Carolina	100
Azusa Rock, LLC	Delaware	100
Black Bear Materials, LTD	British Columbia	100
Black Point Aggregates, Inc.	Nova Scotia	100
Calizas Industriales del Carmen, S.A. de C.V.	Mexico	100
CalMat Co.	Delaware	100
Central Concrete Supply Co. Inc.	California	100
Chem-Marine of South Carolina	South Carolina	100
Coram Materials Corp.	New Jersey	100
Eagle Rock Aggregates, Inc.	Delaware	100
Florida Rock Industries, Inc.	Florida	100
Freeport Aggregates Limited	Bahamas	100
FRI Bahamas Ltd.	Bahamas	100
Harper Brothers, LLC	Delaware	100
Heavy Materials, LLC	U.S. Virgin Islands	100
Heritage Logistics, LLC	Delaware	100
Ingram Concrete, LLC	Texas	100
Legacy Vulcan, LLC	Delaware	100
Maryland Rock Industries, LLC	Delaware	100
Maryland Stone, LLC	Delaware	100
Mideast Division Logistics, LLC	Delaware	100
Mountain West Logistics, LLC	Delaware	100
NorCal Materials, Inc.	California	100
North American Recycling and Crushing, LLC	Delaware	100
Orca Sand & Gravel Limited Partnership	British Columbia	88
Polaris Materials Corporation	British Columbia	100
Procesadora Del Caribe, LTDA	Honduras	100
Rancho Piedra Caliza, S.A. de C.V.	Mexico	100
R. C. Smith Companies, LLC	Delaware	100
RECO Transportation, LLC	Delaware	100
Redi-Mix, LLC	Texas	100
Right Away Ready Mix Incorporated	California	100
S & G Concrete Company, LLC	Delaware	100
Salisbury Towing, LLC	Delaware	100
Shamrock Building Materials, LLC	Delaware	100
Sportes Tecnicos Y Administrativos, S.A. de C.V.	Mexico	100
Southeast Division Logistics, LLC	Delaware	100
Southern Gulf Coast Division Logistics, LLC	Delaware	100
Statewide Transport, LLC	Delaware	100
Stone Creek Mira Mesa LLC	California	100
Superior Concrete Materials, Inc.	District of Columbia	100
Syar Concrete, LLC	California	100
Syar Industries, LLC	California	100
TCS Materials, LLC	Delaware	100
Triangle Rock Products, LLC	Delaware	100
U.S. Concrete, Inc.	Delaware	100
VGCM, B.V.	Netherlands	100
Virginia Concrete Company, LLC	Delaware	100

	State or Other Jurisdiction of Incorporation or Organization	% Owned Directly or Indirectly by Vulcan
Vulcan Aggregates Company, LLC	Delaware	100
Vulcan Asphalt, LLC	Delaware	100
Vulcan Beaches, LLC	Delaware	100
Vulcan Concrete, LLC	Delaware	100
Vulcan Construction Materials, LLC	Delaware	100
Vulcan Gulf Coast Materials, LLC	North Carolina	100
Vulcan International, B.V.	Netherlands	100
Vulcan Lands, Inc.	New Jersey	100
Vulcan Logistics, LLC	Delaware	100
Vulcan Materials Asphalt and Construction	Delaware	100
Vulca Shipping Company, Limited	Bahamas	100

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-254226 on Form S-3 and Registration Statements No. 333-211349, 333-182498, 333-160302, 333-148993, 333-148238, 333-147450, and 333-147449 on Form S-8 of our reports dated February 24, 2023, relating to the consolidated financial statements of Vulcan Materials Company and subsidiaries (the "Company"), and the effectiveness of the Company's internal control over financial reporting appearing in this Annual Report on Form 10-K for the year ended December 31, 2022.

/s/ DELOITTE & TOUCHE LLP

Birmingham, Alabama

February 24, 2023

The undersigned director of Vulcan Materials Company, a New Jersey corporation, hereby nominates, constitutes and appoints Denson N. Franklin III and Jennifer L. Commander and each of them, the true and lawful attorneys of the undersigned to sign the name of the undersigned as director to the Annual Report on Form 10-K for the year ended December 31, 2022 of said corporation to be filed with the Securities and Exchange Commission under the Securities Exchange Act of 1934, as amended, and to any and all amendments to said report.

The undersigned hereby grants to said attorneys full power of substitution, resubstitution and revocation, all as fully as the undersigned could do if personally present, hereby ratifying all that said attorneys or their substitutes may lawfully do by virtue hereof.

IN WITNESS WHEREOF, the undersigned director of Vulcan Materials Company has executed this Power of Attorney this 10th day of February, 2023.

/s/ Melissa H. Anderson
Melissa H. Anderson

/s/ Thomas A. Fanning
Thomas A. Fanning

/s/ O. B. Grayson Hall, Jr.
O. B. Grayson Hall, Jr.

/s/ Cynthia L. Hostetler
Cynthia L. Hostetler

/s/ Lydia H. Kennard
Lydia H. Kennard

/s/ Richard T. O'Brien
Richard T. O'Brien

/s/ James T. Prokopanko
James T. Prokopanko

/s/ Kathleen L. Quirk
Kathleen L. Quirk

/s/ David P. Steiner
David P. Steiner

/s/ Lee J. Styslinger, III
Lee J. Styslinger, III

/s/ George Willis
George Willis

I, J. Thomas Hill, certify that:

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

Date February 24, 2023

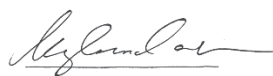


J. Thomas Hill
Chairman, President and Chief Executive Officer

I, Mary Andrews Carlisle, certify that:

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

Date February 24, 2023



Mary Andrews Carlisle
Senior Vice President and Chief Financial Officer

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
OF
VULCAN MATERIALS COMPANY
PURSUANT TO 18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES OXLEY ACT OF 2002

I, J. Thomas Hill, Chairman, President and Chief Executive Officer of Vulcan Materials Company, certify that the Annual Report on Form 10-K (the "report") for the year ended December 31, 2022, filed with the Securities and Exchange Commission on the date hereof:

- (i) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, and
- (ii) the information contained in the report fairly presents, in all material respects, the financial condition and results of operations of Vulcan Materials Company.



J. Thomas Hill
Chairman, President and Chief Executive Officer
February 24, 2023

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to Vulcan Materials Company and will be retained by Vulcan Materials Company and furnished to the Securities and Exchange Commission or its staff upon request.

CERTIFICATION OF CHIEF FINANCIAL OFFICER
OF
VULCAN MATERIALS COMPANY
PURSUANT TO 18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES OXLEY ACT OF 2002

I, Mary Andrews Carlisle, Senior Vice President and Chief Financial Officer of Vulcan Materials Company, certify that the Annual Report on Form 10-K (the "report") for the year ended December 31, 2022, filed with the Securities and Exchange Commission on the date hereof:

- (i) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, and
- (ii) the information contained in the report fairly presents, in all material respects, the financial condition and results of operations of Vulcan Materials Company.



Mary Andrews Carlisle
Senior Vice President and Chief Financial Officer
February 24, 2023

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to Vulcan Materials Company and will be retained by Vulcan Materials Company and furnished to the Securities and Exchange Commission or its staff upon request.

On July 21, 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act (the Dodd-Frank Act) was enacted. Section 1503 of the Dodd-Frank Act requires companies that are “operators” (as such term is defined in the Federal Mine Safety and Health Act of 1977 (the Mine Act)) to disclose certain mine safety information in each periodic report to the Securities and Exchange Commission. This information is related to the enforcement of the Mine Act by the Mine Safety and Health Administration (MSHA).

The Dodd-Frank Act and the subsequent implementing regulation issued by the SEC require disclosure of the following categories of violations, orders and citations: (1) Section 104 S&S Citations, which are citations issued for violations of mandatory health or safety standards that could significantly and substantially contribute to the cause and effect of a mine safety or health hazard; (2) Section 104(b) Orders, which are orders issued upon a follow up inspection where the inspector finds the violation previously cited has not been totally abated in the prescribed time period; (3) Section 104(d) Citations and Orders, which are issued upon violations of mandatory health or safety standards caused by an unwarrantable failure of the operator to comply with the standards; (4) Section 110(b)(2) Violations, which result from the reckless and repeated failure to eliminate a known violation; (5) Section 107(a) Orders, which are given when MSHA determines that an imminent danger exists and results in an order of immediate withdrawal from the area of the mine affected by the condition; and (6) written notices from MSHA of a pattern of violations of mandatory health or safety standards that are of such nature as could have significantly and substantially contributed to the cause and effect of mine health or safety hazards under Section 104(e). In addition, the Dodd-Frank Act requires the disclosure of the total dollar value of proposed assessments from MSHA under the Mine Act and the total number of mining related fatalities.

The following disclosures are made pursuant to Section 1503.

During the twelve months ended December 31, 2022, none of our operations: (i) received any orders under Section 104(b), which are issued upon a follow up inspection where the inspector finds the violation previously cited has not been totally abated in the prescribed time period; (ii) had any flagrant violations under Section 110(b)(2); or (iii) received notice from MSHA of a pattern of violations of mandatory health or safety standards under Section 104(e).

CALENDAR YEAR 2022

The table below sets forth, by mine, the total number of citations and/or orders issued by MSHA during the period covered by this report under the indicated provisions of the Mine Act, together with the total dollar value of proposed assessments, if any, from MSHA, received during the twelve months ended December 31, 2022. Of our 288 active MSHA-regulated facilities during the year, we received 557 federal mine safety inspections at 253 facilities during the reporting period. Of our inspected facilities, 205 did not receive any reportable citations or orders.

Name of Operation	Number of Inspections	Total Number of S&S Citations	Mine Act § 104(b) Orders	Mine Act § 104(d) Citations and Orders	Mine Act § 110(b)(2) Violations	Mine Act § 107(a) Orders	Total Dollar Value of Proposed MSHA Assessments (dollars in thousands)	Total Number of Mining Related Fatalities	Received Written Notice under Mine Act § 104(e) (yes/no)
115 QUARRY, NC	2	1	0	0	0	0	\$0.2	0	No
AL SVC STRIPPING 4, AL	1	1	0	0	0	0	\$0.0	0	No
AUSTIN QUARRY, CA	1	1	0	0	0	0	\$0.0	0	No
BARTLETT, IL	5	1	0	0	0	0	\$1.4	0	No
BLACK LEASE, TX	2	1	0	0	0	0	\$0.3	0	No
BLAIR, SC	4	0	0	1	0	1	\$0.0	0	No
BRIGGS, TX	2	4	0	0	0	0	\$3.7	0	No
BRONTE, TX	1	2	0	0	0	0	\$1.8	0	No
BROWNWOOD, TX	2	1	0	0	0	0	\$0.7	0	No
CHATTANOOGA, TN	1	1	0	0	0	0	\$1.1	0	No
CHULA VISTA, CA	2	1	0	0	0	0	\$1.3	0	No
CLEVELAND, TN	3	1	0	0	0	0	\$0.3	0	No
DANLEY, TN	3	1	0	0	0	0	\$0.0	0	No
DIXIE LEE, TN	3	1	0	0	0	0	\$0.3	0	No
DREYFUS, SC	3	2	0	0	0	0	\$0.0	0	No
FT PAYNE, AL	4	1	0	0	0	0	\$0.0	0	No
GRAHAM VA, VA	2	1	0	0	0	0	\$0.5	0	No
GRAYSON, GA	2	2	0	0	0	0	\$0.0	0	No
GREENVILLE SHOP, SC	1	1	0	0	0	0	\$0.0	0	No
HAMBURG, NJ	1	2	0	0	0	0	\$0.0	0	No
HAVRE DE GRACE, MD	3	2	0	0	0	0	\$0.0	0	No
HUEBNER ROAD, TX	2	1	0	0	0	0	\$1.0	0	No
HUNTSVILLE NORTH, AL	1	1	0	0	0	0	\$0.4	0	No
JACKSON COUNTY QUARRY ¹ , GA	2	1	0	0	0	0	\$0.0	1	No
KENNESAW, GA	3	1	0	0	0	0	\$0.0	0	No
LACON, AL	4	2	0	0	0	0	\$0.0	0	No
LEXINGTON STONE, CA	2	1	0	0	0	0	\$0.2	0	No
MADRAS, GA	2	1	0	0	0	0	\$0.0	0	No
MANASSAS, VA	4	1	0	0	0	0	\$0.0	0	No
MANTENO, IL	1	1	0	0	0	0	\$0.0	0	No
MARANA, AZ	3	1	0	0	0	0	\$0.0	0	No
MARICOPA, AZ	1	1	0	0	0	0	\$0.0	0	No
MARYVILLE, TN	2	1	0	0	0	0	\$0.2	0	No
MCCOOK, IL	3	1	0	0	0	0	\$0.8	0	No
MIAMI, FL	2	1	0	0	0	0	\$1.2	0	No
NE GA MOBILE STRIPPING CREW, GA	1	1	0	0	0	0	\$0.0	0	No
NOTASULGA, AL	3	1	0	0	0	0	\$0.1	0	No
PRIDE, AL	1	1	0	0	0	0	\$0.1	0	No
RICHMOND ROAD, TN	6	1	0	0	0	0	\$0.4	0	No
SAN EMIDIO, CA	2	1	0	0	0	0	\$1.1	0	No
SCOTTSBORO, AL	3	1	0	0	0	0	\$0.0	0	No
SILVER, TX	1	0	0	1	0	0	\$0.0	0	No
SOUTHERN CA	1	1	0	0	0	0	\$0.0	0	No
STAFFORD, VA	4	2	0	0	0	0	\$0.0	0	No
SYCAMORE, IL	3	1	0	0	0	0	\$0.4	0	No
TABLE MOUNTAIN, CA	2	1	0	0	0	0	\$0.8	0	No
TORRANCE, NM	1	1	0	0	0	0	\$0.4	0	No
WAURIKA, OK	3	1	0	0	0	0	\$0.3	0	No
OTHER OPERATIONS - 205	446	0	0	0	0	0	\$0.0	0	No
Total	557	56	0	2	0	1	\$19.0	1	

¹ This fatality relates to a subcontractor's employee who was performing work for a contractor on our property.

The total dollar value of proposed assessments received during the twelve months ended December 31, 2022 for all other citations, as well as proposed assessments received during the reporting period for citations previously issued, is \$61,979.

The table below sets forth, by mine, category of legal action and number of legal actions pending before the Federal Mine Safety and Health Review Commission as of December 31, 2022.

Name of Operation	Number of Legal Actions		
	Contest Penalty	Contest Citations	Complaint of Discharge, Discrimination
115 QUARRY, NC	1	0	0
BOONE QUARRY, NC	1	0	0
GRAHAM VIRGINA, VA	1	0	0
HAVRE DE GRACE, MD	1	0	0
JACKSON QUARRY, GA	2	0	0

The table below sets forth, by mine, category of legal action and number of legal actions filed before the Federal Mine Safety and Health Review Commission during the twelve months ended December 31, 2022.

Name of Operation	Number of Legal Actions		
	Contest Penalty	Contest Citations	Complaint of Discharge, Discrimination
GRAHAM VIRGINA, VA	1	0	0
MADRAS QUARRY, GA	1	0	0
PINEVILLE, NC	1	0	0
VAL VISTA, AZ	1	0	0

The table below sets forth, by mine, category of legal action and number of legal actions resolved by the Federal Mine Safety and Health Review Commission during the twelve months ended December 31, 2022.

Name of Operation	Number of Legal Actions		
	Contest Penalty	Contest Citations	Complaint of Discharge, Discrimination
1604 QUARRY, TX	2	0	0
SPRUCE PINE, NC	1	0	0
LEXINGTON QUARRY, CA	1	0	0
ROYAL STONE, VA	1	0	0
MADRAS QUARRY, GA	0	0	2
WILSON COUNTY QUARRY, TN	1	0	4
STAFFORD, VA	1	0	0

SHAREHOLDER INFORMATION

Vulcan Materials Company and Subsidiary Companies

Shareholder Services

Our transfer agent and registrar, Computershare Shareowner Services LLC (Computershare), has a direct response system for handling shareholders' inquiries about change of address, account balances, recent dividend information, dividend checks, reportable income and dividend reinvestment.

Telephone:

(866) 886-9902

(toll-free inside the U.S. and Canada)

(201) 680-6578

(outside the U.S. and Canada, may call collect)

(800) 231-5469

(TDD, hearing impaired)

Mail:

Vulcan Materials Company
c/o Computershare
PO Box 43078
Providence, RI 02940-3078

Web:

www.computershare.com/investor

Investor Relations

Mark D. Warren

Telephone: (205) 298-3220

E-mail: ir@vmcmail.com

Community & Governmental Relations

Janet F. Kavinoky

Telephone: (205) 298-3220

E-mail: cr@vmcmail.com

Vulcan Materials Company Online

Web: www.vulcanmaterials.com

This website includes general Company information, Securities and Exchange Commission filings, investor information and an archive of recent news releases.

Corporate Headquarters Address

Vulcan Materials Company

1200 Urban Center Drive

Birmingham, Alabama 35242-2545

Telephone: (205) 298-3000

Fax: (205) 298-2963

New York Stock Exchange (NYSE) Assertions

Our common stock is listed and traded on the NYSE under the symbol VMC.

On June 6, 2022, J. Thomas Hill, Chairman, President and Chief Executive Officer, submitted to the NYSE the Written Affirmation required by the rules of the NYSE certifying that he was not aware of any violations by Vulcan Materials Company of NYSE Corporate Governance listing standards.

The certifications of Mr. Hill and Mary Andrews Carlisle, Senior Vice President and Chief Financial Officer, made pursuant to Section 302 of the Sarbanes-Oxley Act of 2002, have been filed as exhibits to our 2022 Annual Report on Form 10-K.

Notice of Annual Meeting

The annual meeting of shareholders will be held virtually via the web on Friday, May 12, 2023, at 9:00 a.m., Central Daylight Time. A formal notice of the meeting and proxy materials accompany this report.

Electronic Deposit of Dividends

Registered holders of our common stock may have their quarterly dividends deposited to their checking or savings account free of charge. Contact Computershare personnel to sign up for this service.

Telephone: (866) 886-9902

Web: www.computershare.com/investor

Direct Stock Purchase and Dividend Reinvestment Plan

The Computershare CIP direct purchase and dividend reinvestment plan offers both existing registered shareholders and first-time investors an affordable alternative for investing in the Company, including the ability to purchase additional shares of our common stock. A brochure describing this service may be obtained by calling or visiting:

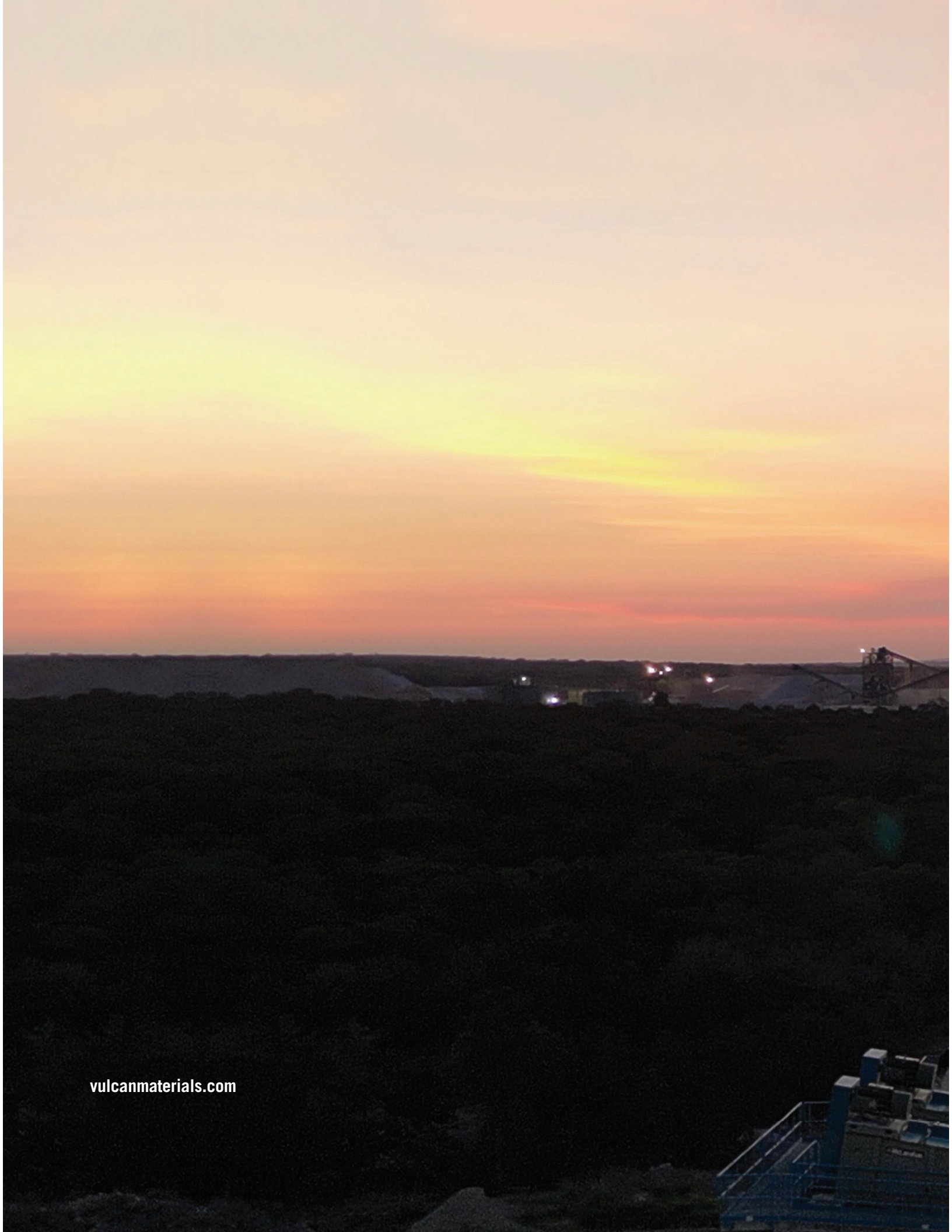
Telephone: (866) 886-9902

Web: www.computershare.com/investor

Independent Auditors

Deloitte & Touche LLP

Birmingham, Alabama



vulcanmaterials.com

