



October 14, 2021

Arizona State Mine Inspector
Attn: Amanda Lothner, Reclamation Specialist
Reclamation Department
1700 West Washington St., Suite 403
Phoenix, AZ 85007-2805

RE: Vulcan Materials Company - Highway 85 Reclamation Plan Package

Enclosed is a package of the Highway 85 Reclamation Plan submittal including 4 hard copies and 1 electronic copy. If you have any questions or require any additional information, please contact Jason Storey at 480-578-7068.

Sincerely,

A handwritten signature in blue ink that reads "Jason Storey".

Jason Storey
Mining Engineer
storeyja@vmcmail.com



RECLAMATION AND CLOSURE PLAN

VULCAN MATERIALS COMPANY

HIGHWAY 85 MINE SITE

**SUBMITTED TO THE STATE MINE INSPECTOR'S OFFICE FOR
REVIEW AND APPROVAL IN ACCORDANCE WITH
ARIZONA REVISED STATUTE
TITLE 27 - CHAPTER 6
STATE MINE INSPECTOR AGGREGATE MINED LAND
RECLAMATION**

OCTOBER 14, 2021

TABLE OF CONTENTS

1.0 ADMINISTRATIVE INFORMATION

2.0 INTRODUCTION

- 2.1 Purpose and Scope
- 2.2 Reclamation Approach
- 2.3 Current Ownership and Land Use Included in the Aggregate Mining Unit
- 2.4 Proposed Postaggregate Mining Land Use
- 2.5 Description of the Aggregate Mining Unit Current as well as Proposed Surface Disturbances
- 2.6 Existing and Proposed Final Topography Including Waste Rock, Stockpiles and Fines Areas
- 2.7 A Narrative Description of Roads

3.0 RECLAMATION

- 3.1 The Proposed Reclamation Measures to Achieve Post Mine Land Use and Public Safety
- 3.2 Equipment and Structure Removal
- 3.3 Site Infrastructure
- 3.4 Area Preparation
- 3.5 Site Stability
- 3.6 Soil Conservation
- 3.7 Revegetation
- 3.8 Timeline
- 3.9 Phasing of Reclamation

4.0 MINE CLOSURE

- 4.1 Mining Areas
- 4.2 Processing and Other Areas
- 4.3 Monitoring

5.0 RECLAMATION COSTS AND FINANCIAL ASSURANCE

- 5.1 Reclamation Costs
- 5.2 Financial Assurance

6.0 RECLAMATION STATEMENT OF RESPONSIBILITY

7.0 REFERENCES

LIST OF MAPS

- Map 1. Site Location Map
- Map 2. Parcel Map
- Map 3. Existing Topography
- Map 4. Approximate Future Topography

LIST OF APPENDICIES

- Appendix A. Engineers Certificate
- Appendix B. Reclamation Costs Detail
- Appendix C. Self-Insurance Information

1.0 ADMINISTRATIVE INFORMATION

Company: Vulcan Materials Company
2526 East University Drive
Phoenix, AZ 85034

Contact: Vulcan Materials Company
2526 East University Drive
Phoenix, AZ 85034
Cell Phone: 480-578-7068
Email: storeyja@vmcmail.com

Applicant: Jason Storey
2526 East University Drive
Phoenix, AZ 85034
Cell Phone: 480-578-7068
Email: storeyja@vmcmail.com

Landowner & Operator: Vulcan Materials Company
2526 East University Drive
Phoenix, AZ 85034
Cell Phone: 480-578-7068
Email: storeyja@vmcmail.com

2.0 INTRODUCTION

2.1 PURPOSE AND SCOPE

Vulcan Materials Company (Vulcan) is the owner and future operator of the proposed Highway 85 (Hwy 85) open pit mining operation. Mining is proposed to commence on or after 12/31/2021. The purpose of this Mine Reclamation and Closure Plan (MRCP) is to present details of reclamation of the Hwy 85 site in Maricopa County, Arizona concurrent with or after proposed mining operations have ceased in accordance with the Arizona Aggregate Mined Lands Act (AAMLRA) (Arizona Revised Statutes[A.R.S.] § 27-1201. as authorized by A.R.S. § 27-1204. This plan has been developed pursuant to the format and content prescribed in the Arizona Aggregate Mined Lands Reclamation Rules (Arizona Administrative Code {A.A.C}, R11-3-101, et seq.) to account for all requirements associated with an environmental assessment and the mining operation MRCP submitted to the State Mine Inspector. Consequently, the MRCP addresses environmental, technical and operational issues that are identified in those documents.

2.2 RECLAMATION APPROACH

Vulcan will reclaim the pit(s) and areas surrounding the pit(s) removing all above grade structures, except for structures needed for or consistent with the proposed post mining land use. Both concurrent and postmining reclamation methods may be utilized at the Hwy 85 mine site.

2.3 CURRENT OWNERSHIP AND LAND USE INCLUDED IN THE AGGREGATE MINING UNIT

The Hwy 85 property is a proposed new construction aggregate mine that is owned and will be operated by Vulcan. To date mining and processing operations have not yet commenced. Currently the property is an active commercial agriculture operation consisting of cultivated fields and associated irrigation infrastructure and former caretaker's residence. It is anticipated that mining will begin on or after 12/31/2021. Hwy 85 will be a significant source of construction materials (aggregate, concrete, and asphalt) in the greater western Phoenix market area in the future.

Map 1 is a Site Location Map on an aerial base with the approximate location of the Hwy 85 mine site in relation to roadways, river channels, and irrigation infrastructure in the area. In the Public Land Survey System, the Hwy 85 mine site is located in Section 12, T 1S, R 4W and Section 7 T 1S, R 3W, with reference to the Gila and Salt River Baseline and Meridian. Parcels owned by Vulcan are shown on Map 2: Parcel Map (see Map 2).

Geographically the Hwy 85 mine site is bordered by West Hazen Road to the north, additional farmland to the east, the Arlington Canal and Gila River to the south, and State Highway 85 to the west. The Arlington Canal separates most of the property from the Gila River floodway, but levees

will need to be constructed to remove much of property from the floodplain. Floodplain use permits will be obtained before mining portions of the property located within the floodplain. North, east, and west of the property are additional cultivated fields with sparse residential development. South of the property is the Gila River channel. The property is relatively flat with a slight 0.2% gradient to the south-southwest.

Groundwater is relatively shallow at the property occurring at approximately ± 15 feet below ground surface (bgs). As a result, mining operations will occur above and below groundwater. As mining advances across the property open ponds will be formed to a maximum of 100 feet below original grade. Shown on Map 3 is the existing site topography taken from the Buckeye USGS 24K Quad Map (see Map 3).

Sand and gravel mining operations will occur in multiple pits across the Hwy 85 Site. Located in the Plant Location Area will be material processing/washing/recycling plants. In addition to material processing ready mix concrete (RMC) and hot mix asphalt (HMA) plants for the manufacture of materials for construction and other industries will be located in the designated Plant Location. Processed and recycled material will also be stockpiled at various locations across the property for both internal use and for sale.

The current property boundary is shown on Maps 1, 3, and 4, with areas to be disturbed on site as necessary as the mining operation expands (see Maps 1, 3, and 4).

The extraction/processing operation will consist of removing earthen material for aggregate mining as described in A.R.S. § 27-441. The process includes, but is not limited to the following: crushers; screens; conveyors; mobile equipment for the support of production; RMC plants; and HMA plants. Other possible activities include the following: core drilling; overburden stripping; loading; hauling; and dredging.

Water for processing may be derived from groundwater exposed in mined pits by pumping, or from existing onsite wells. Locations will be set aside for recycling and water storage. A settling pond location will be chosen in a portion of the mined pit convenient to the processing plant. Process water will be deposited as area becomes available in the mined out portions of the pit.

It is important to note that as electrical needs change it may be necessary to update power delivery in terms of generator sets or ultimately commercial power service. On site fuel storage will also be necessary to accommodate heavy equipment.

Elements for the mining operation, such as material processing plants and offices may be relocated from time to time as the mining operation expands. Berms and fencing may be placed for environmental, safety, and visual and sound buffers.

All necessary permits and entitlements for the proposed Hwy 85 mining operation have and/or will be obtained by Vulcan to comply with all local, state, and federal regulations.

2.4 PROPOSED POSTAGGREGATE MINING LAND USE

Depending on the economics of the area, several possible postmining land uses are possible. Some of the options are as follows:

- Reclaimed Plant Area and/or natural open pond area for commercial use;
- Reclaimed Plant Area and/or Groundwater recharge basin;
- Inert Landfill.

No parts of the mine site will be designated as grazing, fish or wildlife habitat, and forestry or recreation areas once the deposit is depleted and the site has been reclaimed.

2.5 DESCRIPTION OF THE AGGREGATE MINING UNIT CURRENT AND PROPOSED SURFACE DISTURBANCES

See Sections 2.3, 2.6, and 2.8

2.6 EXISTING AND PROPOSED FINAL TOPOGRAPHY INCLUDING WASTE ROCK, STOCKPILES, AND FINES AREAS

Map 3 shows existing topography (see Map 3).

Map 4 shows the proposed final topography as two open ponds and the reclaimed plant area (see Map 4). The pit configurations shown on Map 4 are only approximations, the final depth and area of pits may vary based on market conditions permitting requirement, and geologic conditions encountered.

2.7 A NARRATIVE DESCRIPTION OF ROADS

Haul and access roads throughout the site will be created, maintained, and changed as needed. Parking areas may also change locations as needed.

3.0 RECLAMATION

3.1 THE PROPOSED RECLAMATION MEASURES TO ACHIEVE POST MINE LAND USE AND PUBLIC SAFETY

A. What measures will restrict public access to pits or other hazardous surface features?

Public access will be restricted by berms or fences installed around all open pits, or on or near the property boundary. Where hazards to public safety cannot be reduced during the reclamation process, weather resistant warning signs will be posted to alert the public of water hazards. Further, removal of all scrap metal, wood, trash, and other debris that pose a threat to public safety or create a public nuisance will be removed.

B. What measures will be taken to address erosion control and stability?

Roads and other disturbed or compacted areas of the property will be allowed to naturally revegetate to control erosion and aid in drainage. Low berms may be required around ponds to limit erosion of mined slopes above groundwater.

Site specific grading, natural revegetation, or other proposed control measures may be conducted, as necessary, to address erosion. No permanent piles of mined material or overburden will be left to restrict drainage.

C. What measures will be taken to address revegetation, conservation, and the care and monitoring of revegetated areas?

At this time no deliberate revegetation of the site is planned. Onsite soils are sufficiently fine grained and will provide a suitable soil substrate for establishment of natural vegetation.

Care and monitoring of the reclaimed property will involve annual inspections to monitor slope performance (erosion and stability), natural vegetation growth, and removal of waste, trash and debris dumped by others. Inspections will continue until the site is deemed reclaimed and is released by the ASMI.

3.2 EQUIPMENT AND STRUCTURE REMOVAL

Equipment used for the mining operation (i.e. conveyor belts, and material processing plants) will be removed from the site once the deposit has been depleted and reclamation has commenced. Buildings and structures associated with mining operations located on the property (office, shop, lab, etc.) will be removed during reclamation once the deposit has been depleted. If the site

continues to produce ready mixed concrete or asphalt concrete after the deposit is depleted, structures, foundations, and equipment associated with these operations would remain until they are not economically viable and would ultimately be removed. Costs for removal of all equipment, foundations and structures associated with mining have been estimated and are included in Appendix B.

3.3 SITE INFRASTRUCTURE

Haul roads, plant roads, and access roads may be left graded and in usable condition for the proposed postmining land use other than natural open space. If roads are not required, they will be ripped, plowed, scarified, and allowed to naturally revegetate. The location of the final pit haul road(s) will vary depending on mine progression, and are not shown on the proposed final topography map (see Map 4).

Power lines and water lines installed on the property for the mining operation will be removed upon completion of activity. Existing and proposed water wells and power infrastructure will likely be retained for future use in redevelopment and or sale of the property. However, if onsite wells are ultimately required to be abandoned they will be abandoned in accordance with Arizona Department of Water of Resources regulations.

Fences installed on the property and not necessary to maintain public safety, will be removed.

Costs associated with the removal of planned roads, fencing, water and power lines, and wells have been estimated and are included in Appendix B.

3.4 AREA PREPARATION

Grading may take place in order to create contoured slopes around the edges of the pit. If topsoil addition is desired, salvaged soil, import material, or settling pond fines may be utilized as topsoil material.

3.5 SITE STABILITY

Pit slopes will be mined to final depth at a slope gradient of 2H:1V (Horizontal:Vertical) or shallower, which will minimize erosion and result in geotechnical stability for the area.

Regrading may be utilized in some areas to maintain slope integrity; otherwise no stabilization activities are anticipated beyond the proposed slope configuration. Located in Appendix A is the Engineer's Certificate (see Appendix A).

3.6 SOIL CONSERVATION

Topsoil and overburden will be removed from mining areas and used in perimeter berms at the site. Alternatively, soil and overburden may be removed from the site to be used as fill in the local construction market. If topsoil at the site is not salvaged and topsoil addition is needed, then either import material or settling pond fines will be utilized.

Before redistribution of soil, the regraded land will be treated, if necessary, to reduce the potential for slippage of the redistributed material or to enhance root penetration, or both. Soil and other materials shall be redistributed in a manner that prevents excess compaction and achieves a thickness consistent with the approved postaggregate mining land use as identified in Section 2.4.

3.7 REVEGITATION

Deliberate revegetation through seeding and irrigation is not anticipated at the site as the planned post-mining land use is naturalized open space. Natural revegetation is expected to be successful as onsite soils are sufficiently fine grained to be able to support regrowth. Any natural revegetation will be allowed to establish with locally occurring plant species that will support the approved postmining land use as identified in Section 2.4.

3.8 TIMELINE

A combination of concurrent and postmining reclamation activities may be utilized for the Hwy 85 mine site. Ultimately, final reclamation will commence within one year of the date of depletion of the deposit and will be completed within one year from the commencement of final reclamation activities. Reclamation activities will be designed to minimize hazards to public safety to the extent technically and economically practicable. The reclamation timeline may follow the phasing detailed in Section 3.9.

3.9 PHASING OF RECLAMATION

Phasing of Reclamation activities will vary depending on mine progression. With the possible use of concurrent reclamation activities, some areas may be reclaimed well before the deposit has been depleted. Portions of the site that are not reclaimed concurrently will ultimately be reclaimed within the timeline laid out in section 3.8 above once the deposit has been depleted. Shown on Map 3 is the potential reclamation phasing (Phases 1-3 and Plant Site), with Phase 1 being the far west pit, Phase 2 being the central pit, Phase 3 being the far east pit, east of Rooks Road. The plant area will likely be the last area to be reclaimed (see Map 3). Reclamation sequencing and extent of the phases may vary depending on market conditions, floodplain use permit requirements, and geologic continuity. Phases shown on Map 3 are only approximate.

4.0 MINE CLOSURE

4.1 MINING AREAS

Where concurrent reclamation activities have not been utilized in accordance with A.R.S. § 27-926, reclamation will commence within one year of depletion of the deposit. Once initiated, reclamation will be performed to achieve the proposed postmining land use and will be completed within one year of the commencement of reclamation activities.

4.2 PROCESSING AND OTHER AREAS

Final reclamation of the material processing and other related areas will commence within one year of depletion of the deposit and will be completed within one year of the commencement of final reclamation activities.

As mentioned in Section 3.2, it is possible that ready mix concrete and asphalt concrete operations will still be active after the deposit has been depleted. While they will likely continue to operate after the deposit has been depleted costs for removal of these structures have been estimated and are included in Appendix B of the Revised Reclamation Plan.

4.3 MONITORING

Following final closure of operations and completion of reclamation the site will be monitored annually to ensure that all reclaimed portions of the site are performing as anticipated (slope stability, natural vegetation establishment, erosion and drainage control, access control, trash removal, etc.). Monitoring will be conducted in keeping with the approved conditions of this plan in accordance with the ASMI's Office. Annual inspections will continue until the site is deemed reclaimed and released by the ASMI. Costs associated with annual monitoring have been estimated and are presented in Appendix B.

5.0 RECLAMATION COSTS AND FINANCIAL ASSURANCE

5.1 RECLAMATION COSTS

All reclamation costs will be wholly borne by Vulcan to perform the reclamation activities to achieve the final determined postmining land use.

Reclamation costs for material processing and construction product manufacturing plant removals have been estimated under the assumption that a contractor would do the removal. Quantities for plant removal are based on high side estimates of similar plants from other sites. Reclamation costs are as follows: for the sand and gravel plant removal and site grading is \$133,675; for the HMA Plant removal is \$97,848; for the RMC Plant removal is \$56,749; and total \$288,272. A cost detail breakdown is located in Appendix B.

5.2 FINANCIAL ASSURANCE

Financial surety has been obtained by a Corporate Financial Test or Guarantee. Hwy 85 will be included in the other Arizona sites included in the Self-Insurance Certificate that was submitted and approved in March, 2021 and is attached as Appendix C.

6.0 RECLAMATION STATEMENT OF RESPONSIBILITY

Vulcan Materials Company, owner and operator, assumes responsibility for the reclamation of surface disturbances that are attributable to the aggregate mining unit consistent with A.R.S § 27-1201 and A.C.C. R11-3-501 pursuant to that chapter. Reclaimed areas that have been disturbed at the site will be reclaimed to a safe and stable condition to achieve the postmining land use. Located in Appendix A is the Engineer's Certificate (see Appendix A).

Ja Stuy
Signature

10-12-2021
Date

Mining Engineer
Title

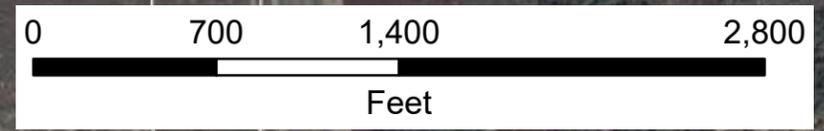
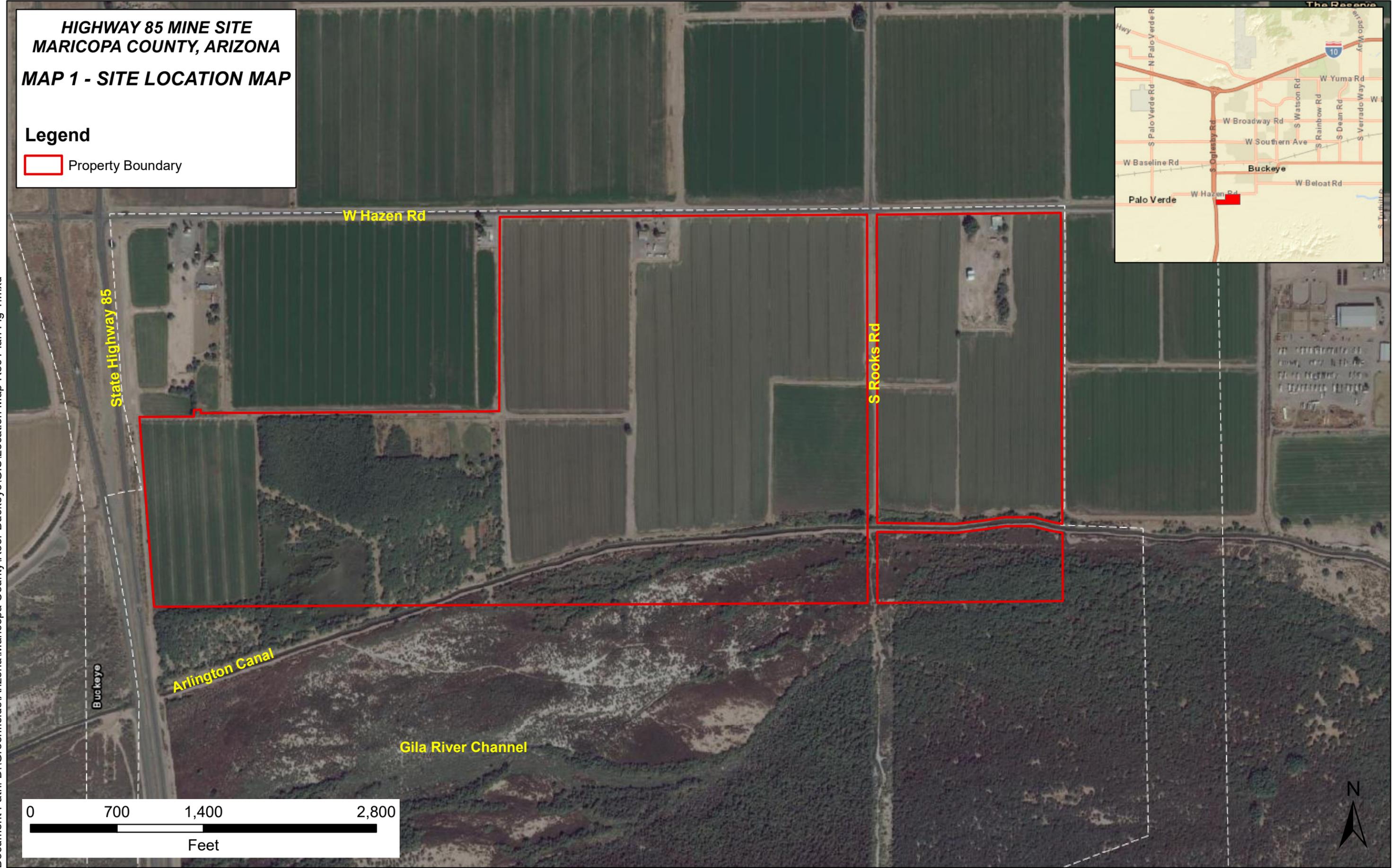
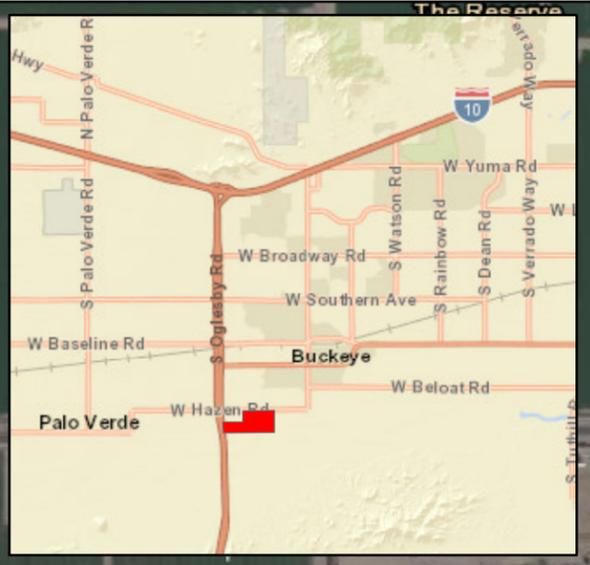
7.0 REFERENCES

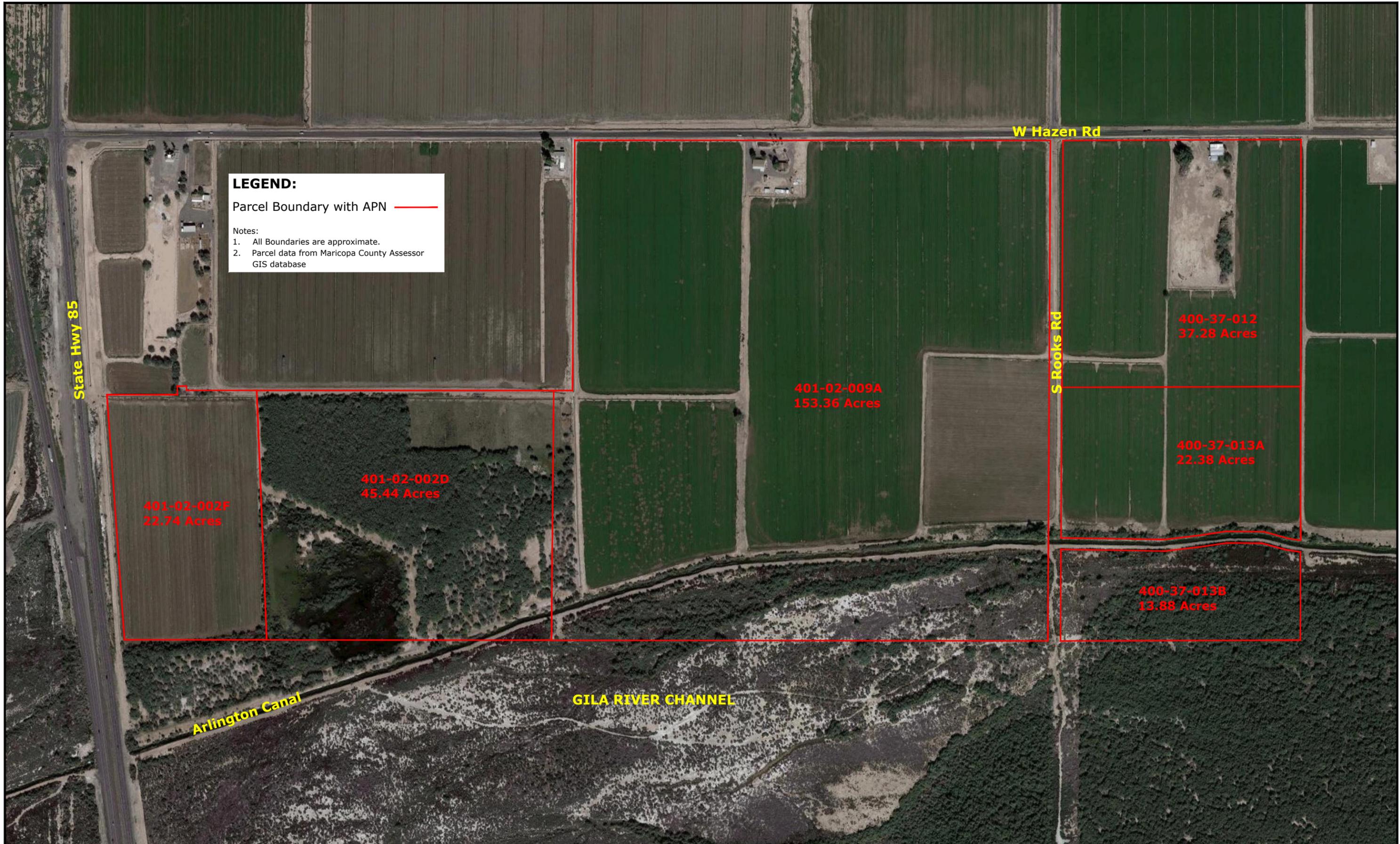
Arizona Administrative Code, Title 11 – Mines, Chapter 3. State Mine Inspector Aggregate Mined Land Reclamation, Articles 1-8.

Arizona Revised Statutes, Title 27 – Minerals, Oil and Gas, Aggregate Mined Land Reclamation, Articles 1-6.

**HIGHWAY 85 MINE SITE
MARICOPA COUNTY, ARIZONA
MAP 1 - SITE LOCATION MAP**

Legend
Property Boundary





LEGEND:
Parcel Boundary with APN ———

Notes:
1. All Boundaries are approximate.
2. Parcel data from Maricopa County Assessor GIS database

State Hwy 85

W Hazen Rd

S Rooks Rd

401-02-002F
22.74 Acres

401-02-002D
45.44 Acres

401-02-009A
153.36 Acres

400-37-012
37.28 Acres

400-37-013A
22.38 Acres

400-37-013B
13.88 Acres

Arlington Canal

GILA RIVER CHANNEL

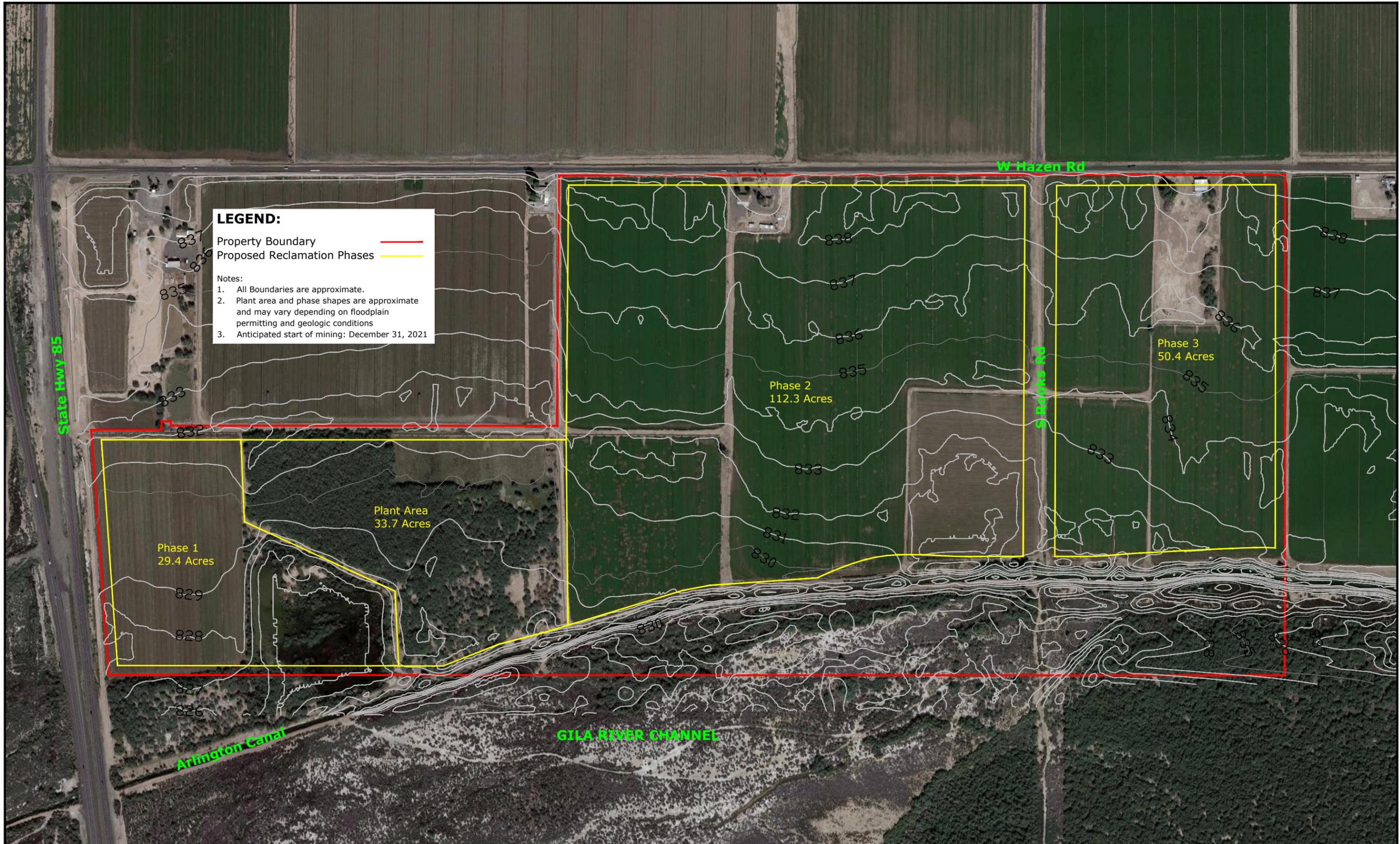


D				TOLERANCES—UNLESS NOTED
C				FRACTIONAL: ± 1/16"
B				DECIMAL: ± 0.010"
A				ANGLE: ± 0.1°
—	INITIAL RELEASE			THIS DRAWING IN DESIGN AND DETAIL IS THE PROPERTY OF VULCAN MATERIALS COMPANY AND MUST BE RETURNED UPON DEMAND. THIS DRAWING MUST NOT BE COPIED, REPRODUCED, OR USED WITHOUT PERMISSION.
DATE	REVISION	BY		



PARCEL BOUNDARIES WITH ASSOCIATED
APN NUMBERS AND AREA (ACRES)
AERIAL IMAGE DATED OCT 2018

SCALE	ARIZONA	PLANT	HWY 85
BY	TWO	BY	FILE
DATE	8/5/2021	DATE	SHEET
DWG. NO.	MAP 2 - PARCEL MAP		REV.
			OF
			—



LEGEND:
 Property Boundary ————
 Proposed Reclamation Phases ————

Notes:
 1. All Boundaries are approximate.
 2. Plant area and phase shapes are approximate and may vary depending on floodplain permitting and geologic conditions
 3. Anticipated start of mining: December 31, 2021

Phase 1
29.4 Acres

Plant Area
33.7 Acres

Phase 2
112.3 Acres

Phase 3
50.4 Acres

State Hwy 85

W Hazen Rd

S Rooks Rd

GILA RIVER CHANNEL



D					
C					
B					
A					
	INITIAL RELEASE				
	DATE	REVISION	BY		

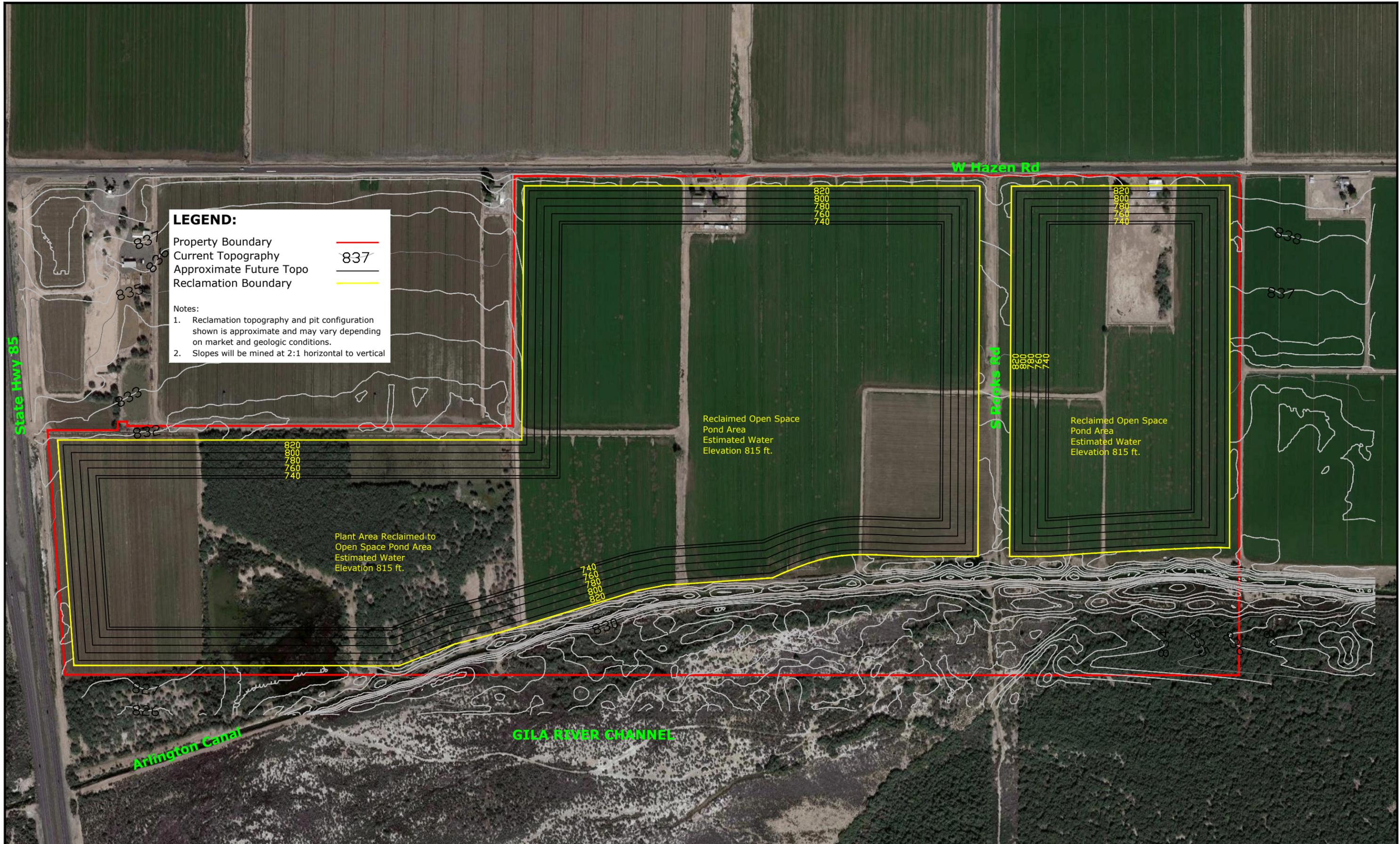
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USGS BUCKEYE 7.5 MIN QUADRANGLE TOPOGRAPHY
 COUNTOUR INTERVAL 1 FOOT
 AERIAL IMAGE DATED OCT 2018

STATE	ARIZONA	PLANT	HWY 85
BY	TWO	PROJ. NO.	FILE
DATE	8/5/2021	SCALE	1" = 450'
MAP 3 - EXISTING TOPOGRAPHY		SHEET	OF



LEGEND:

Property Boundary —

Current Topography — 837

Approximate Future Topo —

Reclamation Boundary —

Notes:

1. Reclamation topography and pit configuration shown is approximate and may vary depending on market and geologic conditions.
2. Slopes will be mined at 2:1 horizontal to vertical

State Hwy 85

W Hazen Rd

S Rooks Rd

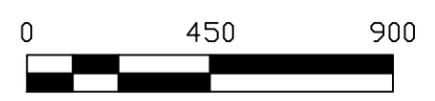
Arlington Canal

GILA RIVER CHANNEL

Reclaimed Open Space
Pond Area
Estimated Water
Elevation 815 ft.

Reclaimed Open Space
Pond Area
Estimated Water
Elevation 815 ft.

Plant Area Reclaimed to
Open Space Pond Area
Estimated Water
Elevation 815 ft.



D					TOLERANCES—UNLESS NOTED FRACTIONAL: ± 1/16" DECIMAL: ± 0.010" ANGLE: ± 0.1° THIS DRAWING IN DESIGN AND DETAIL IS THE PROPERTY OF VULCAN MATERIALS COMPANY AND MUST BE RETURNED UPON DEMAND. THIS DRAWING MUST NOT BE COPIED, REPRODUCED, OR USED WITHOUT PERMISSION.
C					
B					
A					
	INITIAL RELEASE				
	DATE	REVISION	BY		



USGS BUCKEYE 7.5 MIN QUADRANGLE TOPOGRAPHY
 COUNTOUR INTERVAL 1 FOOT
 AERIAL IMAGE DATED OCT 2018

STATE	ARIZONA	PLANT	HWY 85
BY	TWO	BY	
DATE	10/1/2021	DATE	
DWG. NO.	MAP 4 - APPROX FUTURE TOPO		REV.
	SCALE	1" = 450'	SHEET OF

APPENDIX A. ENGINEER'S CERTIFICATE

ENGINEER'S CERTIFICATE

Vulcan will complete reclamation activities to achieve the final determined postmining land use that is a stable surface. All reclamation activities such as: grading; placing topsoil; backfilling; revegetation; or other possible activities will be completed using good engineering practices.

Timothy O'Brien

Signature

10/12/2021

Date

Timothy O'Brien
AZ Geologist #45479
Expires December 31, 2021



APPENDIX B. RECLAMATION COSTS DETAIL



SITE DEMOLITION COST ESTIMATE - SAND & GRAVEL PLANT

PLANT NAME: Hwy 85 DATE: September 23, 2021
 LOCATION: _____ PAGE: 1 of 3
 SITE SIZE - AC: _____
 CREATED BY: J. Storey

1. FUEL SYSTEM REMOVAL

Item	Description	Quantity	Units	Unit Price	Extension
a	Fuel System Tank Disposal	10,000	gal	\$ 0.50	5,000
b			gal	\$ 0.50	-
c			gal	\$ 0.50	-
d		-	gal	\$ 0.75	-
Total Cost					\$ 5,000

2. STRUCTURAL STEEL REMOVAL

Item	Description	Quantity	Units	Unit Price	Extension
a	Structural Demo Equipment & Crew	5	days	\$ 3,500.00	17,500
b					-
c					-
d					-
Total Cost					\$ 17,500

3. DEMOLITION AND REMOVAL OF ALL BUILDINGS/GARAGE/SHOP AND OTHER NON PLANT STRUCTURES EXCLUSIVE OF BUILDING SLABS AND FOOTINGS.

Item	Description	Quantity	Units	Unit Price	Extension
a	Non-Plant Building & Structure Removal	2,000	sq ft	\$ 2.00	4,000
b		-	sq ft	\$ 4.00	-
c					-
d					-
Total Cost					\$ 4,000

4. STRUCTURAL CONCRETE REMOVAL AND EXPORT OFF SITE.

Item	Description	Quantity	Units	Unit Price	Extension
a	Plant Structural Concrete Removal & Export	500	Cu Yds	\$ 65	32,500
b	Non-Plant Structural Concrete Removal & Export	20	Cu Yds	\$ 65	1,300
c					-
d					-
Total Cost					\$ 33,800

5. YARD PAVING MATERIAL (ASPHALT/CONCRETE) REMOVAL AND EXPORT OFF SITE.

Item	Description	Quantity	Units	Unit Price	Extension
a	Total site yard paving material removal	75	Cu Yds	\$ 40.00	3,000
b	Total site yard paving export off site	75	Tons	\$ 5.00	375
c					-
d					-
Total Cost					\$ 3,375

6. ABANDON AND REMOVE UTILITIES.

Item	Description	Quantity	Units	Unit Price	Extension
a	Water well removal	1	ea	\$ 1,500	1,500
b	Water lines removed & capped at property line	1	ea	\$ 1,500	1,500
c	Electric lines removed & capped at property line	1	ea	\$ 1,500	1,500
d	Sewer lines removed & capped at property line	1	ea	\$ 1,500	1,500
Total Cost					\$ 6,000

SITE DEMOLITION COST ESTIMATE

PLANT NAME: Hwy 85
 LOCATION: _____ 0

DATE: September 23, 2021
 PAGE: 2 of 3

7. EXCAVATION REQUIRED AT SITE.

Item	Description	Quantity	Units	Unit Price	Extension
a	Plant excavation required	-	Cu Yds	\$ 6.00	-
b	Import system excavation required	-	Cu Yds	\$ 6.00	-
c	Removal of access road(s)	244	Cu Yds	\$ 6.00	1,464
d	Removal of stockpile(s) & berm(s)	750	Cu Yds	\$ 6.00	4,500
e	Total Cost				\$ 5,964

8. BACKFILL AND COMPACTION REQUIRED AT SITE.

Item	Description	Quantity	Units	Unit Price	Extension
a	Plant backfill and compaction required	-	Cu Yds	\$ 4.00	-
b	Import system backfill and compaction required	-	Cu Yds	\$ 4.00	-
c					-
d					-
e	Total Cost				\$ -

9. IMPORT / EXPORT OF FILL MATERIAL NEEDED AT SITE.

Item	Description	Quantity	Units	Unit Price	Extension
a	Import of fill material needed at site	-	Tons		-
b	Export of fill material from site	-	Tons		-
c					-
d					-
e	Total Cost				\$ -

10. FINAL SITE GRADING.

Item	Description	Quantity	Units	Unit Price	Extension
a	Final site grading	20	acres	\$ 750	15,000
b					-
c					-
d					-
e	Total Cost				\$ 15,000

11. YARD MISCELLANEOUS SCRAP REMOVAL.

Item	Description	Quantity	Units	Unit Price	Extension
a	Miscellaneous trash/scrap removal from site	10	15T loads	\$ 800	8,000
b	Removal of fence & signs	2	15T loads	\$ 800	1,600
c	Asbestos removal contractor	-	ea	\$ 3,000	-
d					-
e	Total Cost				\$ 9,600

12. ESTIMATED FEES FOR DEMOLITION PERMITS, SITE SURVEYS (ASBESTOS, ETC.), AND SITE MAINTENANCE.

Item	Description	Quantity	Units	Unit Price	Extension
a	Asbestos Survey	-		\$ 2,000	-
b	City Demo Permit	1		\$ 500	500
c	AQMD Demo Permit	1		\$ 500	500
d	Site Maintenance & Monitoring	20	acres	\$ 750	15,000
e	Total Cost				\$ 16,000

SITE DEMOLITION COST ESTIMATE

PLANT NAME: Hwy 85
LOCATION: 0

DATE: September 23, 2021
PAGE: 3 of 3

DEMOLITION PROJECT SUMMARY OF ESTIMATED COSTS

1. FUEL SYSTEM REMOVAL	\$	5,000
2. STRUCTURAL STEEL REMOVAL		17,500
3. DEMOLITION AND REMOVAL OF ALL BUILDINGS/GARAGE/SHOP AND OTHER NON PLANT STRUCTURES EXCLUSIVE OF BUILDING SLABS AND FOOTINGS.		4,000
4. STRUCTURAL CONCRETE REMOVAL AND EXPORT OFF SITE.		33,800
5. YARD PAVING MATERIAL (ASPHALT/CONCRETE) REMOVAL AND EXPORT OFF SITE.		3,375
6. ABANDON AND REMOVE UTILITIES.		6,000
7. EXCAVATION REQUIRED AT SITE.		5,964
8. BACKFILL AND COMPACTION REQUIRED AT SITE.		-
9. IMPORT / EXPORT OF FILL MATERIAL NEEDED AT SITE.		-
10. FINAL SITE GRADING.		15,000
11. YARD MISCELLANEOUS SCRAP REMOVAL.		9,600
12. ESTIMATED FEES FOR DEMOLITION PERMITS, SITE SURVEYS (ASBESTOS, ETC.), AND SITE MAINTENANCE.		16,000
CONTRACTOR PROFIT & ADMINISTRATIVE OVERHEAD (15% TOTAL)		17,436
	DEMOLITION PROJECT TOTAL COST	\$ 133,675

Note: Third party costs have been used in this estimate.



SITE DEMOLITION COST ESTIMATE - HMA PLANT

PLANT NAME: Hwy 85
 LOCATION: _____
 SITE SIZE - AC: _____
 CREATED BY: J. Storey

DATE: September 23, 2021
 PAGE: 1 of 3

1. FUEL SYSTEM REMOVAL

Item	Description	Quantity	Units	Unit Price	Extension
a	Fuel System Tank Disposal	20,000	gal	\$ 0.50	10,000
b			gal	\$ 0.50	-
c			gal	\$ 0.50	-
d		-	gal	\$ 0.75	-
Total Cost					\$ 10,000

2. STRUCTURAL STEEL REMOVAL

Item	Description	Quantity	Units	Unit Price	Extension
a	Structural demo equipment and crew	2	days	\$ 3,500.00	7,000
b					-
c					-
d					-
Total Cost					\$ 7,000

3. DEMOLITION AND REMOVAL OF ALL BUILDINGS/GARAGE/SHOP AND OTHER NON PLANT STRUCTURES EXCLUSIVE OF BUILDING SLABS AND FOOTINGS.

Item	Description	Quantity	Units	Unit Price	Extension
a	Non-Plant Building & Structure Removal	1,000	sq ft	\$ 2.00	2,000
b		-	sq ft	\$ 4.00	-
c					-
d					-
Total Cost					\$ 2,000

4. STRUCTURAL CONCRETE REMOVAL AND EXPORT OFF SITE.

Item	Description	Quantity	Units	Unit Price	Extension
a	Plant Structural Concrete Removal & Export	750	Cu Yds	\$ 65	48,750
b	Non-Plant Structural Concrete Removal & Export	9	Cu Yds	\$ 65	585
c					-
d					-
Total Cost					\$ 49,335

5. YARD PAVING MATERIAL (ASPHALT/CONCRETE) REMOVAL AND EXPORT OFF SITE.

Item	Description	Quantity	Units	Unit Price	Extension
a	Total site yard paving material removal	50	Cu Yds	\$ 40.00	2,000
b	Total site yard paving export off site	50	Tons	\$ 5.00	250
c					-
d					-
Total Cost					\$ 2,250

6. ABANDON AND REMOVE UTILITIES.

Item	Description	Quantity	Units	Unit Price	Extension
a	Water well removal	-	ea	\$ 1,500	-
b	Water lines removed & capped at property line	-	ea	\$ 1,500	-
c	Electric lines removed & capped at property line	-	ea	\$ 1,500	-
d	Sewer lines removed & capped at property line	-	ea	\$ 1,500	-
Total Cost					\$ -

SITE DEMOLITION COST ESTIMATE

PLANT NAME: Hwy 85
 LOCATION: _____ 0

DATE: September 23, 2021
 PAGE: 2 of 3

7. EXCAVATION REQUIRED AT SITE.

Item	Description	Quantity	Units	Unit Price	Extension
a	Plant excavation required	-	Cu Yds	\$ 6.00	-
b	Import system excavation required	-	Cu Yds	\$ 6.00	-
c	Removal of access road(s)	-	Cu Yds	\$ 6.00	-
d	Removal of stockpile(s) & berm(s)	750	Cu Yds	\$ 6.00	4,500
e	Total Cost				\$ 4,500

8. BACKFILL AND COMPACTION REQUIRED AT SITE.

Item	Description	Quantity	Units	Unit Price	Extension
a	Plant backfill and compaction required	-	Cu Yds	\$ 4.00	-
b	Import system backfill and compaction required	-	Cu Yds	\$ 4.00	-
c					-
d					-
e	Total Cost				\$ -

9. IMPORT / EXPORT OF FILL MATERIAL NEEDED AT SITE.

Item	Description	Quantity	Units	Unit Price	Extension
a	Import of fill material needed at site	-	Tons		-
b	Export of fill material from site	-	Tons		-
c					-
d					-
e	Total Cost				\$ -

10. FINAL SITE GRADING.

Item	Description	Quantity	Units	Unit Price	Extension
a	Final site grading	4	acres	\$ 750.00	3,000
b					-
c					-
d					-
e	Total Cost				\$ 3,000

11. YARD MISCELLANEOUS SCRAP REMOVAL.

Item	Description	Quantity	Units	Unit Price	Extension
a	Miscellaneous trash/scrap removal from site	4	15T loads	\$ 800	3,200
b	Removal of fence & signs	1	15T loads	\$ 800	800
c	Asbestos removal contractor	-	ea	\$ 3,000	-
d					-
e	Total Cost				\$ 4,000

12. ESTIMATED FEES FOR DEMOLITION PERMITS, SITE SURVEYS (ASBESTOS, ETC.), AND SITE MAINTENANCE.

Item	Description	Quantity	Units	Unit Price	Extension
a	Asbestos Survey	-		\$ 2,000	-
b	City Demo Permit	1		\$ 500	500
c	AQMD Demo Permit	1		\$ 500	500
d	Site Maintenance & Monitoring	4	acres	\$ 500	2,000
e	Total Cost				\$ 3,000

SITE DEMOLITION COST ESTIMATE

PLANT NAME: Hwy 85
LOCATION: _____ 0

DATE: September 23, 2021
PAGE: 3 of 3

DEMOLITION PROJECT SUMMARY OF ESTIMATED COSTS

1. FUEL SYSTEM REMOVAL	\$	10,000
2. STRUCTURAL STEEL REMOVAL		7,000
3. DEMOLITION AND REMOVAL OF ALL BUILDINGS/GARAGE/SHOP AND OTHER NON PLANT STRUCTURES EXCLUSIVE OF BUILDING SLABS AND FOOTINGS.		2,000
4. STRUCTURAL CONCRETE REMOVAL AND EXPORT OFF SITE.		49,335
5. YARD PAVING MATERIAL (ASPHALT/CONCRETE) REMOVAL AND EXPORT OFF SITE.		2,250
6. ABANDON AND REMOVE UTILITIES.		-
7. EXCAVATION REQUIRED AT SITE.		4,500
8. BACKFILL AND COMPACTION REQUIRED AT SITE.		-
9. IMPORT / EXPORT OF FILL MATERIAL NEEDED AT SITE.		-
10. FINAL SITE GRADING.		3,000
11. YARD MISCELLANEOUS SCRAP REMOVAL.		4,000
12. ESTIMATED FEES FOR DEMOLITION PERMITS, SITE SURVEYS (ASBESTOS, ETC.), AND SITE MAINTENANCE.		3,000
CONTRACTOR PROFIT & ADMINISTRATIVE OVERHEAD (15% TOTAL)		12,763
	DEMOLITION PROJECT TOTAL COST	\$ 97,848

Note: Third party costs have been used in this estimate.



SITE DEMOLITION COST ESTIMATE - RMC PLANT

PLANT NAME: Hwy 85
 LOCATION: _____
 SITE SIZE - AC: _____
 CREATED BY: J. Storey

DATE: September 23, 2021
 PAGE: 1 of 3

1. FUEL SYSTEM REMOVAL

Item	Description	Quantity	Units	Unit Price	Extension
a	Fuel System Tank Disposal	-	gal	\$ 0.50	-
b			gal	\$ 0.50	-
c			gal	\$ 0.50	-
d		-	gal	\$ 0.75	-
Total Cost					\$ -

2. STRUCTURAL STEEL REMOVAL

Item	Description	Quantity	Units	Unit Price	Extension
a	Structural demo equipment and crew	2	days	\$ 3,500.00	7,000
b					-
c					-
d					-
Total Cost					\$ 7,000

3. DEMOLITION AND REMOVAL OF ALL BUILDINGS/GARAGE/SHOP AND OTHER NON PLANT STRUCTURES EXCLUSIVE OF BUILDING SLABS AND FOOTINGS.

Item	Description	Quantity	Units	Unit Price	Extension
a	Non-Plant Building & Structure Removal	1,000	sq ft	\$ 2.00	2,000
b		-	sq ft	\$ 4.00	-
c					-
d					-
Total Cost					\$ 2,000

4. STRUCTURAL CONCRETE REMOVAL AND EXPORT OFF SITE.

Item	Description	Quantity	Units	Unit Price	Extension
a	Plant Structural Concrete Removal & Export	500	Cu Yds	\$ 65	32,500
b	Non-Plant Structural Concrete Removal & Export	9	Cu Yds	\$ 65	585
c					-
d					-
Total Cost					\$ 33,085

5. YARD PAVING MATERIAL (ASPHALT/CONCRETE) REMOVAL AND EXPORT OFF SITE.

Item	Description	Quantity	Units	Unit Price	Extension
a	Total site yard paving material removal	-	Cu Yds	\$ 40.00	-
b	Total site yard paving export off site	-	Cu Yds	\$ 15.00	-
c					-
d					-
Total Cost					\$ -

6. ABANDON AND REMOVE UTILITIES.

Item	Description	Quantity	Units	Unit Price	Extension
a	Water well removal	-	ea	\$ 1,500	-
b	Water lines removed & capped at property line	-	ea	\$ 1,500	-
c	Electric lines removed & capped at property line	-	ea	\$ 1,500	-
d	Sewer lines removed & capped at property line	-	ea	\$ 1,500	-
Total Cost					\$ -

SITE DEMOLITION COST ESTIMATE

PLANT NAME: Hwy 85 DATE: September 23, 2021
 LOCATION: _____ 0 PAGE: 2 of 3

7. EXCAVATION REQUIRED AT SITE.

Item	Description	Quantity	Units	Unit Price	Extension
a	Plant excavation required	-	Cu Yds	\$ 6.00	-
b	Import system excavation required	-	Cu Yds	\$ 6.00	-
c	Removal of access road(s)	244	Cu Yds	\$ 6.00	1,464
d	Removal of stockpile(s) & berm(s)	750	Cu Yds	\$ 6.00	4,500
e	Total Cost				\$ 5,964

8. BACKFILL AND COMPACTION REQUIRED AT SITE.

Item	Description	Quantity	Units	Unit Price	Extension
a	Plant backfill and compaction required	-	Cu Yds	\$ 4.00	-
b	Import system backfill and compaction required	-	Cu Yds	\$ 4.00	-
c					-
d					-
e	Total Cost				\$ -

9. IMPORT / EXPORT OF FILL MATERIAL NEEDED AT SITE.

Item	Description	Quantity	Units	Unit Price	Extension
a	Import of fill material needed at site	-	Tons		-
b	Export of fill material from site	-	Tons		-
c					-
d					-
e	Total Cost				\$ -

10. FINAL SITE GRADING.

Item	Description	Quantity	Units	Unit Price	Extension
a	Final site grading	3	acres	\$ 750	2,250
b					-
c					-
d					-
e	Total Cost				\$ 2,250

11. YARD MISCELLANEOUS SCRAP REMOVAL.

Item	Description	Quantity	Units	Unit Price	Extension
a	Miscellaneous trash/scrap removal from site	3	15T loads	\$ 800	2,400
b	Removal of fence & signs	1	15T loads	\$ 800	800
c	Asbestos removal contractor	-	ea	\$ 3,000	-
d					-
e	Total Cost				\$ 3,200

12. ESTIMATED FEES FOR DEMOLITION PERMITS, SITE SURVEYS (ASBESTOS, ETC.), AND SITE MAINTENANCE.

Item	Description	Quantity	Units	Unit Price	Extension
a	Asbestos Survey	-		\$ 2,000	-
b	City Demo Permit	1		\$ 500	500
c	AQMD Demo Permit	1		\$ 500	500
d	Site Maintenance & Monitoring	3	acres	\$ 750	2,250
e	Total Cost				\$ 3,250

SITE DEMOLITION COST ESTIMATE

PLANT NAME: Hwy 85
LOCATION: 0

DATE: September 23, 2021
PAGE: 3 of 3

DEMOLITION PROJECT SUMMARY OF ESTIMATED COSTS

1. FUEL SYSTEM REMOVAL	\$	-
2. STRUCTURAL STEEL REMOVAL		7,000
3. DEMOLITION AND REMOVAL OF ALL BUILDINGS/GARAGE/SHOP AND OTHER NON PLANT STRUCTURES EXCLUSIVE OF BUILDING SLABS AND FOOTINGS.		2,000
4. STRUCTURAL CONCRETE REMOVAL AND EXPORT OFF SITE.		33,085
5. YARD PAVING MATERIAL (ASPHALT/CONCRETE) REMOVAL AND EXPORT OFF SITE.		-
6. ABANDON AND REMOVE UTILITIES.		-
7. EXCAVATION REQUIRED AT SITE.		5,964
8. BACKFILL AND COMPACTION REQUIRED AT SITE.		-
9. IMPORT / EXPORT OF FILL MATERIAL NEEDED AT SITE.		-
10. FINAL SITE GRADING.		2,250
11. YARD MISCELLANEOUS SCRAP REMOVAL.		3,200
12. ESTIMATED FEES FOR DEMOLITION PERMITS, SITE SURVEYS (ASBESTOS, ETC.), AND SITE MAINTENANCE.		3,250
CONTRACTOR PROFIT & ADMINISTRATIVE OVERHEAD (15% TOTAL)		8,512
	DEMOLITION PROJECT TOTAL COST	\$ 56,749

Note: Third party costs have been used in this estimate.

APPENDIX C. SELF-INSURANCE INFORMATION



October 12, 2021

Arizona State Mine Inspector
Attn: Amanda Lothner, Reclamation Specialist
Reclamation Department
1700 West Washington St., Suite 403
Phoenix, AZ 85007-2805

RE: Vulcan Materials Company - Financial Assurance Update for Hwy 85 Addition

Attached is supporting documentation to confirm the requirements for Self Insurance for Vulcan's approved aggregate sites. Below are individual and total reclamation costs for the sites.

VULCAN SITES & RECLAMATION COSTS	
Vulcan Mine Site	Reclamation Costs from Plan
Avondale	\$180,850
Black Angus	\$180,850
Gila 240	\$180,850
Green Valley	\$280,658
Ina Road Quarry	\$1,210,000
Litchfield	\$406,920
Marana	\$358,550
South Pit	\$51,919
Sun City	\$644,493
Val Vista	\$42,500
West 43 rd	\$498,200
West Broadway	\$947,000
Total Cost	\$4,982,790

Note: Vulcan's naming conventions for mine sites may differ from those used by the ASMI

Hwy 85 brings the total to thirteen sites and the total AZ site reclamation cost to \$5,271,062. As indicated on the following attachment(s), total reclamation costs are different than listed above (\$8.3MM vs. \$5.3MM) since Vulcan escalates reclamation costs over time. The attached information verifies Vulcan has more than the amount listed above accrued for reclamation costs.

If you have any questions or require any additional information, please contact Jason Storey at 480-578-7068.

Sincerely,

Jason Storey
Mining Engineer
storeyja@vmcmail.com

Vulcan Materials Company - Mountain West Division
2526 East University Drive, Phoenix, AZ 85034
Main Phone: 602-254-8465



Arizona State Mine Inspector (ASMI) Agency
Attn: Amanda Lothner
Reclamation Department
1700 West Washington St., Suite 403
Phoenix, AZ 85007-2805

March 16, 2021

Reference: Certificate of Self Insurance for Vulcan Materials Company Aggregate Mine Sites Reclamation

Per 40 Code of Federal Regulation § 264.143(f) which is incorporated by reference in A.R.S. § 27-1291(B)(8) and R-11-3-809(C) require annual financial statements that have been submitted to the U.S. Securities and Exchange Commission (SEC).

Located below are the individual and total reclamation costs for the 7 Vulcan aggregate mine sites.

Mine Site	Estimated Costs as of December 31, 2020
Litchfield C&D Landfill	\$ 3,948,088
Queen Creek	562,713
Avondale	754,015
Peoria	922,413
Black Angus	1,113,087
Marana	483,192
Ina	502,260
Total Estimated Costs	\$ 8,285,768

I have reviewed the requirements listed in the statutes above and have prepared Attachment 1 using Vulcan Materials Company's 2020 SEC Form 10-K.

On Attachment 1, the calculations cover the requirements listed in 40 Code of Federal Regulations § 264.143(f)(1)(ii).

I (Suzanne H. Wood) hereby certify that CalMat Co., a Delaware corporation dba Vulcan Materials Company, Mountain West Division, qualifies for self-insurance as a financial assurance mechanism pursuant to A.R.S. § 27-1291(B)(8) and R-11-3-809(C).

If additional information is required, please contact Richard Jones, Manager of Geological Services, Email: jonesre@vmcmail.com, and 818-553-8942.

Sincerely,



Suzanne H. Wood
Senior VP & Chief Financial Officer
Vulcan Materials Company

Attachments

Attachment 1

VULCAN MATERIALS COMPANY
(as indirect parent of CalMat Co.)
(\$ in Thousands)

December 31, 2020

VMC Aggregate Mine Sites Reclamation Financial Assurance Calculations

(A) Current senior unsecured debt rating

BBB+
(Standard & Poors)

(B) Is tangible net worth => 6X Financial Assurance Amount?

Yes

Tangible Net Worth:

Total Assets	\$	11,686,905
Less: Intangible assets		(4,295,656)
Less: Total Liabilities		(5,659,575)
Tangible Net Worth	\$	<u>1,731,674</u>
Estimated Cost of Work	\$	8,286
Other financially assured environmental obligations		4,758
Total Financial Assurance Amount	\$	<u>13,044</u>

(C) Is Tangible Net Worth => \$10 million

Yes

(D) Are at least 90% of firm's assets located in the U.S.?

Yes

Total Assets	\$	11,686,905
Less: Assets outside of the U.S.		(261,574)
Total U.S. assets	\$	<u>11,425,331</u>

CONSOLIDATED BALANCE SHEETS

Vulcan Materials Company and Subsidiary Companies

	2020	2019
<i>As of December 31</i>		
<i>in thousands</i>		
Assets		
Cash and cash equivalents	\$ 1,197,068	\$ 271,589
Restricted cash	945	2,917
Accounts and notes receivable		
Customers, less allowance for doubtful accounts		
2020 — \$2,551; 2019 — \$3,125	512,945	532,012
Other	43,352	38,104
Inventories	448,585	458,308
Other current assets	74,270	76,396
Total current assets	2,277,165	1,379,326
Investments and long-term receivables	34,301	60,709
Property, plant & equipment, net	4,425,999	4,316,038
Operating lease right-of-use assets, net	423,128	408,189
Goodwill	3,172,112	3,167,061
Other intangible assets, net	1,123,544	1,091,475
Other noncurrent assets	230,656	225,995
Total assets	\$ 11,686,905	\$ 10,648,793
Liabilities		
Current maturities of long-term debt	515,435	25
Trade payables and accruals	273,080	265,159
Accrued salaries, wages and management incentives	91,646	97,228
Accrued interest	19,943	19,167
Other current liabilities	147,779	153,984
Total current liabilities	1,047,883	535,563
Long-term debt	2,772,240	2,784,315
Deferred income taxes, net	706,050	633,039
Deferred management incentive and other compensation	26,787	22,856
Pension benefits	107,195	142,363
Other postretirement benefits	29,412	35,848
Asset retirement obligations	283,163	210,323
Deferred revenue	174,045	179,880
Operating lease liabilities	399,582	388,042
Other noncurrent liabilities	113,218	94,707
Total liabilities	\$ 5,659,575	\$ 5,026,936
Other commitments and contingencies (Note 12)		
Equity		
Common stock, \$1 par value, Authorized 480,000 shares,		
Outstanding 132,516 and 132,371 shares, respectively	132,516	132,371
Capital in excess of par value	2,802,012	2,791,353
Retained earnings	3,274,107	2,895,871
Accumulated other comprehensive loss	(181,305)	(197,738)
Total equity	6,027,330	5,621,857
Total liabilities and equity	\$ 11,686,905	\$ 10,648,793

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

NOTE 15: SEGMENT REPORTING

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 \$4,845,863,000 in 2020, \$4,912,972,000 in 2019 and \$4,365,309,000 in 2018. Nondomestic Aggregates segment revenues were \$10,963,000 in 2020, \$16,131,000 in 2019 and \$17,560,000 in 2018; 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 \$261,574,000 in 2020, \$274,439,000 in 2019 and \$278,520,000 in 2018.** Equity method investments of \$26,524,000 in 2020, \$50,587,000 in 2019 and \$39,395,000 in 2018 are included below in the identifiable assets for the Aggregates segment and in investments and long-term receivables on the accompanying Consolidated Balance Sheets



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USA

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM ON APPLYING AGREED-UPON PROCEDURES

To the Board of Directors of
Vulcan Materials Company
Birmingham, Alabama

We have performed the procedures included in the Code of Federal Regulations (CFR) Title 40, Part 264, Section 143 (40 CFR 264.143), which were agreed to by the Arizona State Mine Inspector and Vulcan Materials Company ("Vulcan"), solely to assist the specified parties in evaluating Vulcan's compliance with the financial test option as of December 31, 2020, included in the accompanying letter dated March 16, 2021 from Suzanne Wood of Vulcan Materials Company. Management is responsible for Vulcan's compliance with those requirements. The sufficiency of these procedures is solely the responsibility of the parties specified in this report. Consequently, we make no representation regarding the sufficiency of the procedures described below either for the purpose for which this report has been requested or for any other purpose.

The procedures that we performed and related findings are as follows:

1. We compared the amounts included in the financial test attached to the Certificate of Self Insurance letter to the Arizona State Mine Inspector with the corresponding amounts in the audited financial statements of Vulcan Materials Company as of and for the year ended December 31, 2020, on which we have issued our report dated February 25, 2021, and noted that such amounts were in agreement.
2. We recomputed from, or reconciled to, the financial statements referred to in procedure 1 the information included in the financial test in the letter referred to above and noted no differences.

This agreed-upon procedures engagement was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. We were not engaged to and did not perform an examination or review, the objective of which would be the expression of an opinion or conclusion, respectively, on the accompanying letter dated March 16, 2021. Accordingly, we do not express such an opinion or conclusion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you.

This report is intended solely for the information and use of the board of directors and management of Vulcan Materials Company and the Arizona State Mine Inspector, and is not intended to be and should not be used by anyone other than these specified parties.

March 26, 2021

**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, 2020**

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)

20-8579133

(I.R.S. Employer Identification No.)

1200 Urban Center Drive, Birmingham, Alabama

(Address of Principal Executive Offices)

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
Non-accelerated filer

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.

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, 2020: \$15,315,526,050

Number of shares of common stock, \$1.00 par value, outstanding as of February 12, 2021: 132,547,092

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's annual proxy statement for the annual meeting of its shareholders to be held on May 14, 2021, 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, 2020

CONTENTS

PART	ITEM		PAGE
I	1	<u>Business</u>	3
	1A	<u>Risk Factors</u>	19
	1B	<u>Unresolved Staff Comments</u>	24
	2	<u>Properties</u>	25
	3	<u>Legal Proceedings</u>	28
	4	<u>Mine Safety Disclosures</u>	28
	—	<u>Information about our Executive Officers</u>	29
II	5	<u>Market for the Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities</u>	31
	7	<u>Management’s Discussion and Analysis of Financial Condition and Results of Operations</u>	32
	7A	<u>Quantitative and Qualitative Disclosures about Market Risk</u>	67
	8	<u>Financial Statements and Supplementary Data</u>	68
	9	<u>Changes in and Disagreements with Accountants on Accounting and Financial Disclosure</u>	123
	9A	<u>Controls and Procedures</u>	123
	9B	<u>Other Information</u>	125
III	10	<u>Directors, Executive Officers and Corporate Governance</u>	126
	11	<u>Executive Compensation</u>	126
	12	<u>Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters</u>	126
	13	<u>Certain Relationships and Related Transactions, and Director Independence</u>	126
	14	<u>Principal Accounting Fees and Services</u>	126
IV	15	<u>Exhibits and Financial Statement Schedules</u>	127
	16	<u>Form 10-K Summary</u>	132
	—	<u>Signatures</u>	133

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.

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 recent outbreak of COVID-19
- 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
- the highly competitive nature of the construction industry
- the impact of future regulatory or legislative actions, including those relating to climate change, wetlands, greenhouse gas emissions, the definition of minerals, tax policy or 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
- energy costs
- costs of hydrocarbon-based raw materials
- healthcare costs
- the amount of long-term debt and interest expense we incur
- changes in interest rates
- the impact of a discontinuation of the London Interbank Offered Rate (LIBOR)
- 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 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.

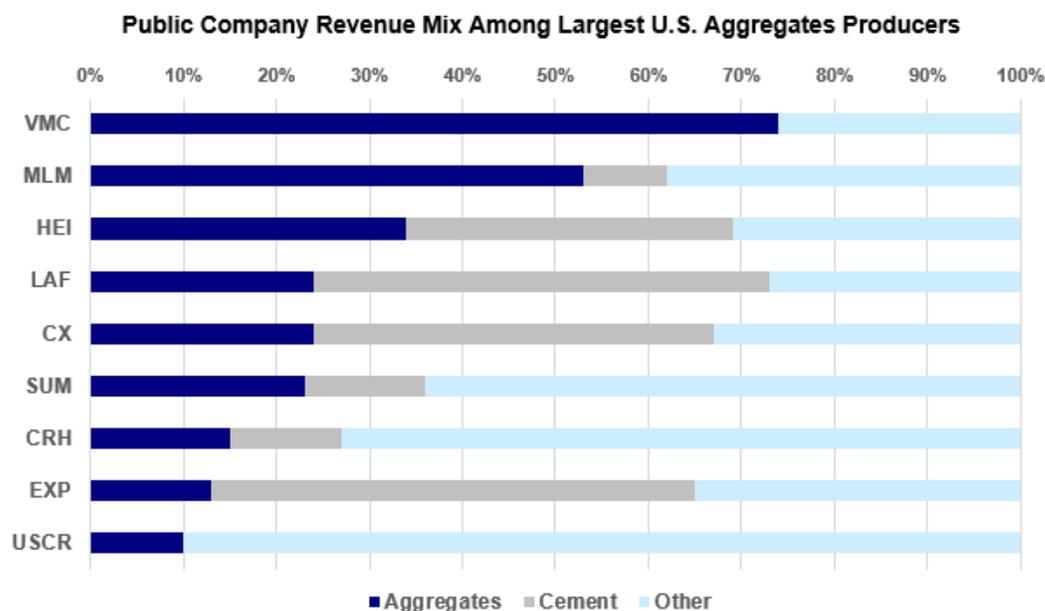
Vulcan Materials Company operates primarily in the U.S. and is the nation’s largest supplier of construction aggregates (primarily crushed stone, sand and gravel), a major producer of asphalt mix and ready-mixed concrete, and a supplier of construction paving services. We provide the basic materials 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, 2020, we had 380 active aggregates facilities, 70 asphalt facilities and 46 concrete facilities.

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: 2019 reported financial information and Company estimates

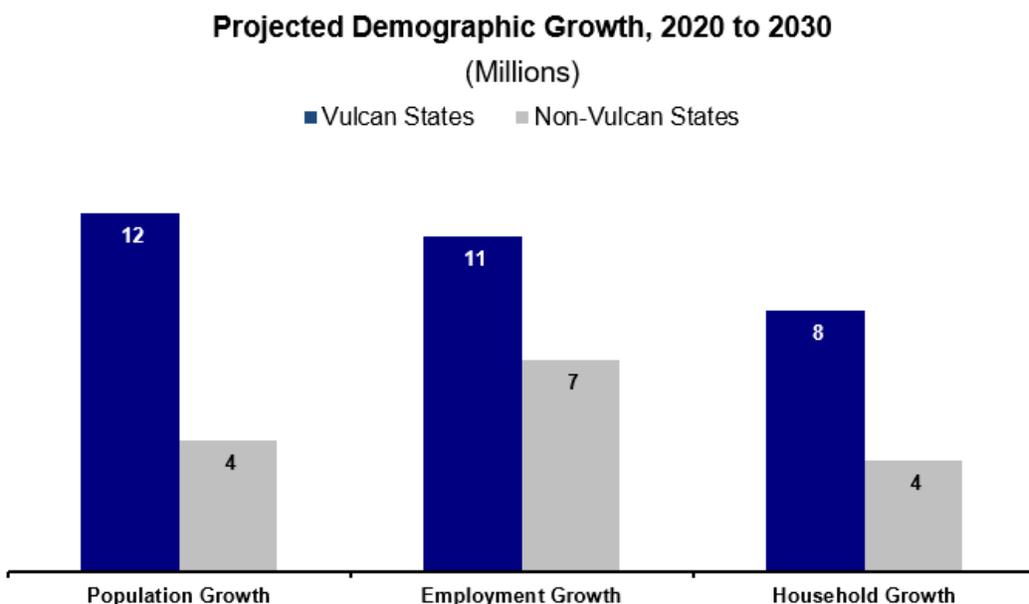
Given our focus on aggregates, we:

- 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 380 active aggregates facilities as of December 31, 2020 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 15.9 billion tons of permitted and proven or probable aggregates reserves. They are strategically located throughout the United States in high-growth areas 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 period 2020 - 2030, Moody's Analytics projects that 73% of the U.S. population growth, 70% of household formation and 61% of new jobs will occur in Vulcan-served states. Our coast-to-coast footprint serves 19 of the top 25 highest-growth metropolitan statistical areas in 20 states plus the District of Columbia. 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.



Source: Moody's Analytics as of December 10, 2020

Our top ten revenue producing states accounted for 88% of our 2020 revenues while our top five accounted for 61%.

VULCAN'S TOP TEN REVENUE PRODUCING STATES IN 2020

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

Since becoming a public company in 1956, Vulcan has principally grown by mergers and acquisitions. For example, 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. Additionally, throughout our history we have completed many bolt-on aggregates acquisitions that have contributed significantly to our growth. For example, during 2019 we acquired aggregates operations that strengthened our position in Tennessee.

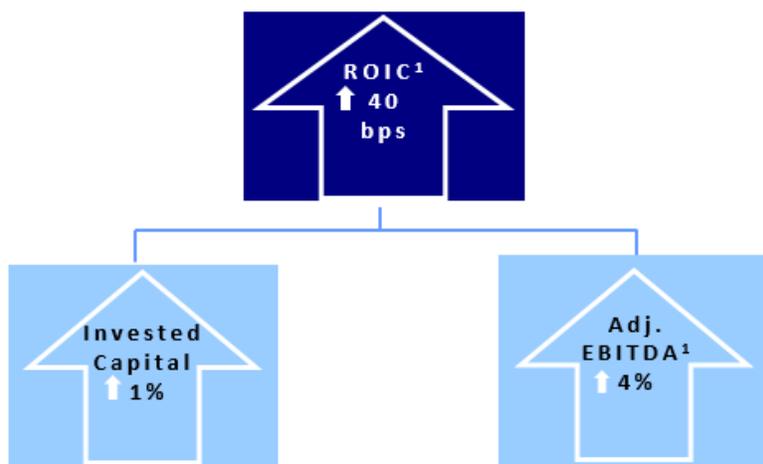
While an aggregates-focused business, we selectively make investments in downstream products that drive local market profitability. Our downstream businesses (asphalt and concrete) use Vulcan-produced aggregates almost exclusively. In 2017, we entered the asphalt market in Tennessee through the acquisition 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. Additionally, throughout our history we have completed many bolt-on downstream acquisitions that have contributed significantly to our growth. For example, during 2020 we acquired asphalt operations in Texas expanding our already strong presence in that market. From 2018 to 2020, we invested over \$300 million in acquisitions as outlined in Note 19 "Acquisitions and Divestitures" in Item 8 "Financial Statements and Supplementary Data."

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)

Our strategic priorities have given us the ability to leverage decisions we have made over the past few years. During 2020, we reinvested \$360.8 million into core operating & maintenance capital and internal growth capital, in addition to \$384.1 million and \$469.1 million reinvested in 2019 and 2018, 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.

As illustrated below, our annual Return on Invested Capital (ROIC) increased 0.4 percentage points (40 basis points) in 2020 as a 4% increase in Adjusted EBITDA (net earnings decreased 5% in 2020) was leveraged with disciplined capital management (average invested capital only increased 1%).



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

3. COMPOUNDING IMPROVEMENT IN PROFITABILITY

Our focus on the following four strategic disciplines has made us one of the most profitable public companies in the industry (as measured by aggregates gross profit per ton).

- Operational Excellence — Continuous and sustainable improvements in both our operating disciplines and our industry-leading safety performance coupled with better asset utilization through improved availability and throughput leads to effective cost control.
- Strategic Sourcing — Leveraging common practices and innovation leads to 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.
- Commercial Excellence — Clearly defined roles and responsibilities together with access to real time, forward-looking metrics leads to our sales teams spending less time on non-selling activities and more time responding to our customers' needs.
- Logistics Innovation – Partnering with our customers (truck drivers and contractors) to provide a bundled logistics solution with digital shipping records and on-site, mobile visibility leads to streamlined scheduling, speed and accuracy of delivery, and efficient back-office processes.

We manage these disciplines 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.

4. LAND MANAGEMENT

With approximately 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, creating 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.

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. Our work with state, regional and local governments to develop solutions today will benefit future generations.

5. SAFETY, HEALTH AND THE ENVIRONMENT

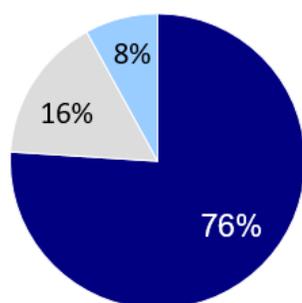
A strategy for sustainable, long-term value creation must include doing right by your employees, your neighbors and the environment in which you operate. We are a leader in our industry in safety performance by applying the shared experiences, expertise and resources at each of our locally led sites with an emphasis on taking care of one another. We focus on our environmental stewardship programs with the same intensity that we bring to our health and safety initiatives. And, our community relations programs serve our neighbors while ensuring that we grow and thrive in the communities where we operate.

PRODUCT LINES

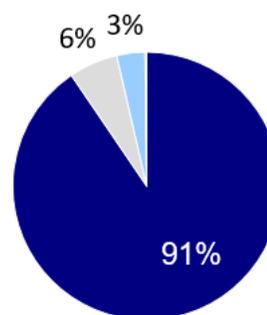
Our products are used to build the roads, tunnels, bridges, railroads and airports that connect us, and to build the hospitals, schools, shopping centers, factories and places of worship that are essential to our lives, our communities and the economy. We have four operating (and reportable) segments (Aggregates, Asphalt, Concrete and Calcium) organized around our principal product lines.

Our 2020 total revenues and gross profit by segment are illustrated as follows (Calcium revenues and gross profit were less than one percent):

2020 Total Revenues



2020 Gross Profit



■ Aggregates ■ Asphalt ■ Concrete

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

We generally ship our products upon receipt of a purchase order or in some cases simply a price quote. Therefore, we do not have a significant order backlog.

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 80% 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 quarry on Mexico's Yucatan Peninsula with our fleet of Panamax-class, self-unloading ships. Approximately 17% of our total aggregates shipments are delivered by truck to the customer after reaching a sales yard by rail or water. The remaining 3% 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 manage close to 11,000 operations. 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 23,000 customers in 20 states, the District of Columbia and Mexico.

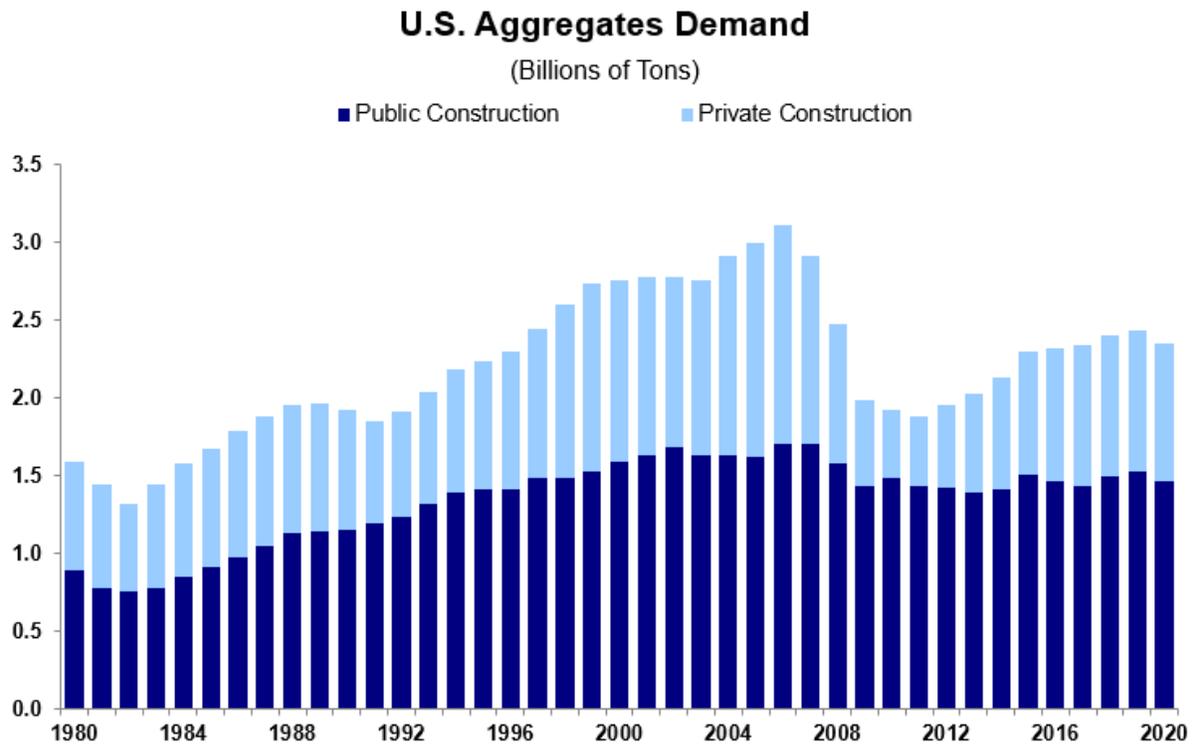
- **FLEXIBLE PRODUCTION CAPABILITIES:** The production of aggregates is a mechanical process in which stone is crushed and, through a series of screens, separated into various sizes depending on how it will be used. Production capacity is flexible by adjusting operating hours to meet changing market 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 (short-term disruption due to COVID-19 pandemic) 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; public investment in infrastructure that is still well below the long-term trend-line; and increasing political awareness and acceptance of 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. Because transportation is a significant part of the delivered cost of aggregates, our facilities are typically located in the markets they serve or have access to economical transportation via rail, barge or ship to a particular end market. 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.



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 2020, publicly-funded construction accounted for approximately 43% of our total aggregates shipments, and approximately 23% 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 2012, 32 states have increased or adjusted taxes on motor fuel to increase revenues available for transportation investment. Most recently, in 2020 the Virginia legislature raised its statewide gas tax, and voters in Arkansas renewed a ½ cent sales tax measure originally approved in 2012, to provide significant revenue for highway construction and maintenance through motor fuel tax increases. Other states have increased revenues outside of fuel taxes or made one-time increases. Since 2012, eleven Vulcan-served states representing over 87% of our 2020 total revenues have averaged a 69% increase in their states' revenues for highways.

In addition, we benefit from state and local transportation funding ballot measures. Major transportation funding measures in Vulcan-served areas approved in 2020 are estimated to result in \$2.575 billion in revenues and bond proceeds primarily dedicated to roads, streets and bridges. Across the United States, voters in 18 states approved 94% of 322 measures in 2020, which will generate \$14.1 billion in new and recurring transportation investment. This represents a record high approval rate and continues a trend in which voters have approved 83% of nearly 2,300 transportation investment ballot measures since 2010.

- **FEDERAL HIGHWAY FUNDING:** In December 2015, President Obama signed a new, long-term federal highway and transit authorization bill, Fixing America's Surface Transportation Infrastructure Act (FAST Act), into law after the final legislation received strong, bipartisan support in both the House and the Senate. The FAST Act provides multi-year funding to state and local governments in support of road, bridge, intermodal and public transportation projects. President Trump signed a one-year extension of the FAST Act into law in 2020.

The FAST Act increases Federal-Aid Highway Program funding from \$41 billion in the federal fiscal year (FFY) 2015 to \$47 billion in FFY 2021. The Bipartisan Budget Act of 2018 added approximately \$2 billion per year to base highway programs in 2018 and 2019. In addition, for FFY 2021, state departments of transportation were allocated \$10 billion in emergency aid from the \$900 billion Coronavirus Response and Relief Supplemental Appropriations Act, a COVID-19 relief measure passed by Congress in December 2020 as part of a final year-end legislative package.

The long-term nature of the FAST Act is important. The Federal-Aid Highway Program is the largest component of the law and has provided, on average, 52% 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.

The FAST Act also contains important policy changes. To further accelerate the project delivery process, it augments the environmental review and permitting process reforms contained in the prior law, Moving Ahead for Progress in the 21st Century Act (MAP-21). The FAST Act also provides assistance for states making investments in major capital projects — particularly freight 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 FAST Act funding and policy implementation.

Project financing remains an important additional component of overall surface transportation spending, with the Transportation Infrastructure Finance & Innovation Act (TIFIA) program authorized at \$275 million (in line with the previous program outlays) and growing to \$300 million by 2020. The FAST Act also created a new National Surface Transportation and Innovative Finance Bureau to provide technical assistance to states seeking to pursue public-private partnerships and other financing arrangements for transportation projects.

The FAST Act extension expires on September 30, 2021. Congress is in the process of developing policy and funding legislative proposals for FAST Act reauthorization. It would not be atypical for additional extensions of current law to be required to provide Congress with adequate time to complete the reauthorization process. Historically, there is minimal disruption to the flow of federal funding to state and local projects due to extensions.

- **FEDERAL WATER INFRASTRUCTURE:** In December 2020, President Trump signed the Water Resources Development Act of 2020 (WRDA 2020) into law, enacting the fourth consecutive biennial authorization for the U.S. Army Corps of Engineers (Army Corps) since 2014. WRDA 2020 reauthorizes needed investment in America's ports, channels, locks, dams, and other infrastructure that supports the maritime and waterways transportation system and provides flood protection for communities. It also improves the United States Environmental Protection Agency's (EPA) programs for storm water, water recycling, and sewer overflow projects. The FFY 2021 appropriations for the Corps, also passed as part of the year-end legislative package, funds for the first time the Army Corps Water Infrastructure Financing Program (CWIFP), which was authorized in the Water Resources Reform and Development Act of 2014 (WRRDA 2014). Modeled after the highly popular TIFIA program in the surface transportation sector, CWIFP will accelerate non-federal investments in water resources infrastructure by providing long-term, low-cost loans to creditworthy borrowers.

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 2020, privately-funded construction accounted for approximately 57% 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 2020, total annual housing starts in the U.S. reached 1.475 million units.

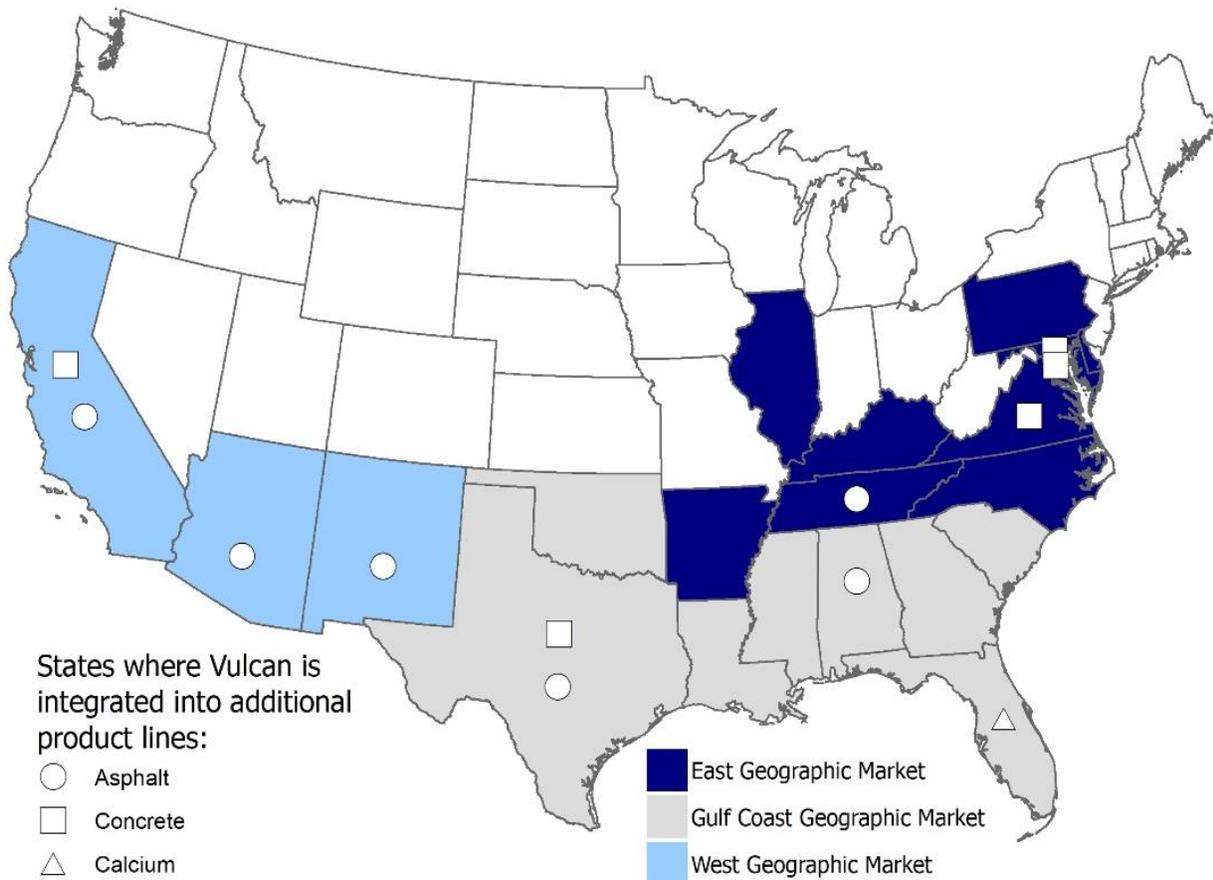
ADDITIONAL AGGREGATES PRODUCTS AND MARKETS

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 large quarry on the Yucatan Peninsula in Mexico. 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. In October 2020, we strengthened our asphalt position in Texas by acquiring additional asphalt operations. In June 2018, we acquired additional asphalt mix operations and a construction paving business in Texas. In March 2018, we entered the Alabama asphalt market through the acquisition of an aggregates, asphalt mix and construction paving business. 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, Texas, Virginia and Washington D.C. In April 2020, we exited the New Mexico ready-mixed concrete market (we retained the concrete plants and mobile fleet which is leased to the buyer and obtained a 20-year aggregates supply agreement). In October 2019, we expanded our ready-mixed concrete operations in Virginia via an acquisition. In March 2018, we exited the Georgia ready-mixed concrete market (we retained all real property which is leased to the buyer and obtained a long-term 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. 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.

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 31% of the total U.S. aggregates production in 2020. 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:

- Cemex S.A.B. de C.V.
- CRH plc
- HeidelbergCement AG
- LafargeHolcim
- 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 close to 11,000 operations during 2020, 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 2020, our five largest customers accounted for 7.5% of our total revenues, and no single customer accounted for more than 1.8% of our total revenues. Although approximately 45% 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 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. We estimate that capital expenditures for environmental control facilities in 2021 and 2022 will be \$11.3 million and \$7.5 million, respectively. These anticipated 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 in 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, 2021, we employed 8,431 people in the United States. Of these employees, 651 are represented by labor unions. Also, as of that date, we employed 415 people in Mexico and 1 person in the Bahamas, and of these employees, 339 are represented by labor unions. We do not anticipate any significant issues with any unions in 2021.

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 and inclusion are important values at Vulcan. Our continued investment in people and strong commitment to diversity 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 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.

As a result of our commitment to diversity 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 and Inclusion Council
- Built partnerships with HBCUs to recruit talented minority students for internships and management training roles

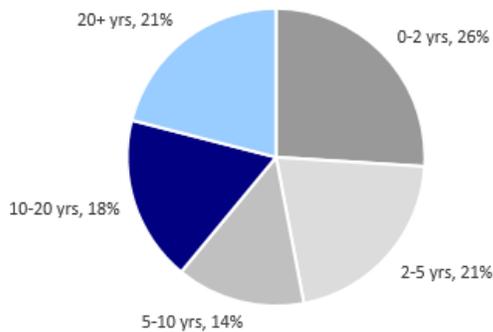
Today, approximately 38% of our workforce is diverse, and we have a number of initiatives to continue building a diverse and inclusive workforce. We have more than doubled the number of diverse Division and Corporate officers since 2013. Our Board of Directors is 36% diverse; and, we earned recognition in 2017 by *2020 Women on Boards* for having 20% or more of our board seats held by women.

We believe that learning is fundamental to every job and we encourage our people to expand and explore their capabilities for continued growth. 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:

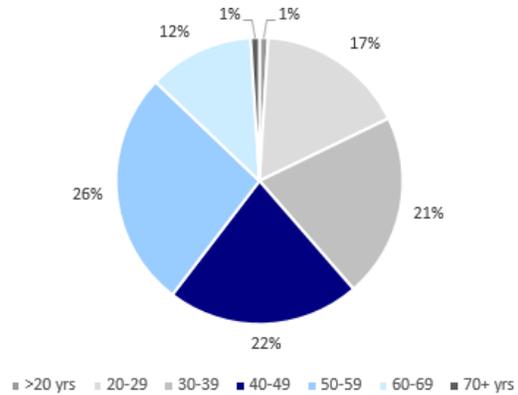
- Provide our employees with a Tuition Reimbursement Program which pays up to 100% of tuition costs based on academic performance
- Encourage personal and professional growth through our mentoring program which has graduated more than 1,906 employees
- Prepare future senior-level leaders through our Leadership 2022 series in partnership with the University of North Carolina, Chapel Hill
- Offer mini MBA programs and other continuing education opportunities

The result is strong employee engagement that puts Vulcan in the top 10% in our most recent McKinsey & Company's Organizational Health Index cycle (2017), which benchmarked Vulcan against over 5 million respondents from 1,700 companies.

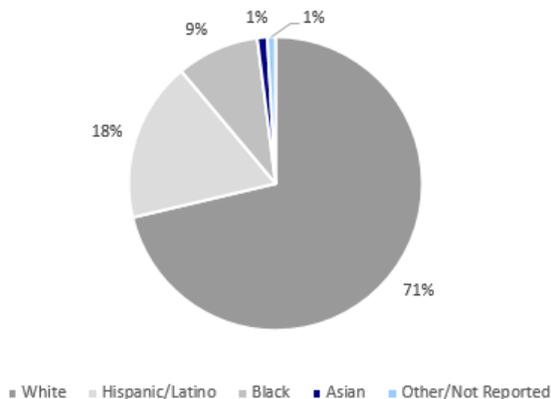
Employee Tenure



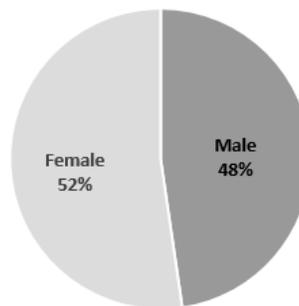
Employees by Age Group



Workforce Racial/Ethnic Diversity



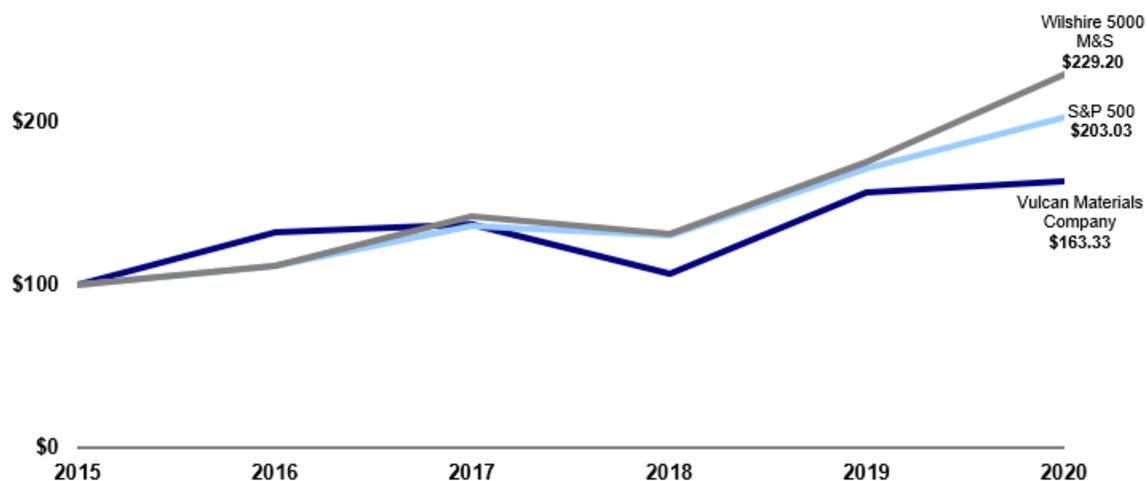
Salaried Non-Exempt Employees by Gender



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 Materials and Services Sector of the Wilshire 5000 Index (Wilshire 5000 M&S) from December 31, 2015 to December 31, 2020. The Wilshire 5000 M&S is a market capitalization weighted sector containing public equities of firms in the Materials and Services sector, which includes our company and approximately 1,300 other companies.

5 Year Comparative Total Return to Shareholders 2015-2020



	2015	2016	2017	2018	2019	2020
Comparative Total Return ¹						
Vulcan Materials Company	\$ 100.00	\$ 132.69	\$ 137.21	\$ 106.66	\$ 156.86	\$ 163.33
S&P 500	\$ 100.00	\$ 111.96	\$ 136.40	\$ 130.43	\$ 171.48	\$ 203.03
Wilshire 5000 M&S	\$ 100.00	\$ 111.39	\$ 142.11	\$ 131.47	\$ 175.29	\$ 229.20

¹ Assumes an initial investment at December 31, 2015 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 heading “Corporate Governance” under the “Investor Relations” tab 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 4, 2020 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. These risk factors do 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 to our operations. 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. Since our business is dependent on spending in both the public and private sector construction markets, our profits are sensitive to the underlying national, regional, and local economic conditions. Construction spending, which is cyclical, is affected by general economic conditions, changes in interest rates, demographic shifts, industry cycles, employment levels, inflation and other business, economic and financial factors that are beyond our control. A downturn in construction activities or spending 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.

A pandemic, epidemic or other public health emergency, such as the recent outbreak of the current coronavirus (COVID-19) pandemic, could have a material adverse effect on our business, results of operations, financial condition and cash flows — Our operations expose us to risks associated with pandemics, epidemics or other public health emergencies, such as the COVID-19 pandemic. In March 2020, the World Health Organization characterized COVID-19 as a pandemic, and the President of the United States declared the COVID-19 outbreak a national emergency. The outbreak has resulted in governments around the world implementing or reimplementing strict measures to help control the spread of the virus, including quarantines, “shelter in place” and “stay at home” orders, travel restrictions, business curtailments, school closures, and other measures. In addition, governments and central banks in several parts of the world have enacted fiscal and monetary stimulus measures to counteract the impacts of the COVID-19 pandemic, and may take further action as circumstances warrant.

Consistent with federal guidelines and with state and local orders to date, we currently continue to operate across our footprint as an essential business. Notwithstanding our continued operations and an economic environment that has shown signs of improvement, the COVID-19 pandemic has had and may have further negative impacts on our operations, supply chain, transportation networks and customers, which may lower our revenues and EBITDA, including as a result of preventative and precautionary measures that we, other businesses and governments are taking. The COVID-19 pandemic is a widespread public health crisis that is adversely affecting the economies and financial markets of many countries. Any resulting economic downturn could adversely affect demand for our products and contribute to volatile supply and demand conditions affecting prices and volumes in the markets for our products and services. The progression of this matter has and may continue to negatively impact our business or results of operations by affecting the health of our employees and through the temporary closure of our operating locations or those of our customers or suppliers. The extent to which the COVID-19 outbreak impacts our business, results of operations, financial condition or cash flows will depend on future developments, which remain highly uncertain and cannot be predicted, including, but not limited to, the duration and geographic spread of the outbreak, its severity, the actions to contain the virus or treat its impact including the reimplementing of restrictions on economic activity following new outbreaks, the long-term impacts of the virus on transportation revenues, government budgets and other funding priorities and the extent and pace at which normal economic and operating conditions can resume. There can be no assurance that we will not be impacted by adverse consequences that may be brought about by pandemics on global financial markets, which may reduce resources, share prices and financial liquidity and may severely limit the availability of financing capital.

Changes in legal requirements and governmental policies concerning zoning, land use, environmental and other areas of the law may result in additional liabilities, a reduction in operating hours and additional capital expenditures — Our operations are affected by numerous federal, state and local laws and regulations related to zoning, land use and environmental matters. Despite our compliance efforts, we have an inherent risk of liability in the operation of our business. These potential liabilities could have an adverse impact on our operations and profitability. 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 or impede our access to reserves or opening new or expanding existing plants or facilities.

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 2020, voters in local jurisdictions in Arizona, 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 2020, Virginia passed new long-term highway funding legislation and voters in Arkansas made permanent a ½ cent gas tax increase first approved in 2012. The federal FAST Act, a five year, fully-funded road, bridge and public transportation authorization law, was extended for a year, and continues to provide assistance to state DOTs and metro areas while Congress contemplates new long-term highway and transit legislation in 2021. However, given varying state and local budgetary situations and the associated pressure on infrastructure spending, we cannot be entirely assured of the existence, amount and timing of appropriations for future public infrastructure projects.

Climate change and 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.

Other potential impacts of climate change include physical impacts, such as disruption in production and product distribution due to impacts from major storm events, shifts in regional weather patterns and intensities, availability of water and potential impacts from sea level changes. There is also a potential for climate change legislation and regulation to adversely impact the cost of purchased energy and electricity. 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 reductions in greenhouse gas emissions could result in increased energy, transportation and raw material costs, and may require us to make additional investments in facilities and equipment.

The impacts of climate change on our operations and the company overall are highly uncertain and difficult to estimate. However, climate change legislation and regulation concerning greenhouse gases could have a material adverse effect on our future financial position, results of operations or cash flows.

We are subject to various risks arising from our international business operations and relationships, which could adversely affect our business — We have international operations and are subject to both the risks of conducting international business and the requirements of the Foreign Corrupt Practices Act of 1977 (the FCPA). We face political and other risks associated with our international operations, including our largest production facility located in Playa del Carmen, Mexico. These risks may 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. In addition, failure to comply with the FCPA may result in legal claims against us.

GROWTH AND COMPETITIVE RISKS

Within our local markets, we operate in a highly competitive industry which may negatively impact prices, volumes and costs — 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. Therefore, there is intense competition in a number of markets in which we operate. This significant competition could lead to lower prices and lower sales volumes in some markets, negatively affecting our earnings and cash flows.

The expanded use of aggregates substitutes could have a material adverse effect on our business, financial condition and results of operations — 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. If we are unable to secure and permit such reserves it could negatively affect our future earnings — Construction aggregates are bulky and heavy and, therefore, difficult to transport efficiently. Because of the nature of the products, the freight costs can quickly surpass the production costs. 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; therefore, 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 other businesses in our industry and successfully integrating them with our existing operations. If we are unable to integrate acquisitions successfully, it could lead to higher costs and could negatively affect our earnings — The expansion of our business is dependent in part on the acquisition of existing businesses that own or control aggregates reserves. Disruptions in the availability of financing could make it more difficult to capitalize on potential acquisitions. Additionally, with regard to the acquisitions we are able to complete, our future results will depend in part on our ability to successfully integrate these businesses with our existing operations.

FINANCIAL/ACCOUNTING RISKS

Our industry is capital intensive, resulting in significant fixed and semi-fixed costs. Therefore, our earnings are highly sensitive to changes in product shipments — Due to the high levels of fixed capital required for extracting and producing construction aggregates, our profits are negatively affected by significant decreases in shipments.

Significant downturn in the construction industry may result in an impairment of our goodwill — 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. While we have not identified any events or changes in circumstances since our annual impairment test on November 1, 2020 that indicate the fair value of any of our reporting units is below its carrying value, a significant downturn in the construction industry may have a material effect on the fair value of our reporting units. A significant 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.

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 \$3.36 billion of debt with maturities between 2021 and 2048. Given our current credit metrics and ratings, together with other factors, we expect to refinance our nearer term debt maturities rather than repay them when due. Furthermore, 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 cost of, new debt or equity capital.

We use estimates in accounting for a number of significant items. Changes in our estimates could adversely affect our future financial results — 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 significant judgment in accounting for:

- 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

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

The phase-out of LIBOR, or the replacement of LIBOR with a different reference rate or modification of the method used to calculate LIBOR, may adversely affect interest rates — LIBOR is an interest rate benchmark used as a reference rate for a wide range of financial transactions. In July 2017, the United Kingdom’s Financial Conduct Authority, which regulates LIBOR, announced that it intends to stop compelling banks to submit LIBOR rates after 2021. It is unclear whether LIBOR will cease to exist at that time (and if so, what reference rate will replace it) or if new methods of calculating LIBOR will be established such that it continues to exist after 2021. The Alternative Reference Rates Committee (ARRC) has proposed the Secured Overnight Financing Rate (SOFR) as the alternative to U.S. LIBOR. ARRC has proposed a paced market transition plan to SOFR from LIBOR, and organizations are currently working on industry wide and company specific transition plans. Uncertainty exists as to the transition process and broad acceptance of SOFR as the primary alternative to LIBOR. We have two material debt instruments with LIBOR as a reference rate: 1) \$500.0 million floating-rate notes due March 2021, and 2) \$1,000.0 million line of credit (none outstanding at December 31, 2020) due September 2025. At this time, we cannot predict the impact of a departure from LIBOR as a reference rate.

PERSONNEL RISKS

Our future success greatly depends upon attracting and retaining qualified personnel, particularly in sales and operations — A significant factor in our future profitability is our ability to attract, develop and retain qualified personnel. 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 11% 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 leading to higher costs and/or reduced revenues.

GENERAL RISK FACTORS

A significant interruption of our information technology systems or the loss of confidential or other sensitive data could have a material adverse impact on our operations and financial results — Given our reliance on information technology (our own and that of our service providers' such as Amazon Web Services), a significant interruption in the availability of information technology or the loss of confidential, personal, or proprietary information (whether our own, our employees', our suppliers', or our customers'), regardless of the cause, could negatively impact our operations and financial results. We have a dedicated information security team that executes, and updates as warranted based on emerging risk and new risk management technology, our information security program. 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. While we have invested in the protection of our data and information technology and routinely test the security of our information systems network, we cannot be assured that our efforts will prevent breakdowns or breaches in our systems that could adversely affect our business.

Weather can materially affect our operating results — 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.

Our products are transported by truck, rail, barge or ship, often by third-party providers. Significant delays or increased costs affecting these transportation methods could materially affect our operations and earnings — Our products are distributed either by truck to local markets or by rail, barge or oceangoing vessel to remote markets. The costs of transporting our products could be negatively affected by factors outside of our control, including 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, inclement weather, including hurricanes, tornadoes and other weather events, can negatively impact our distribution network.

We use large amounts of electricity, diesel fuel, liquid asphalt and other petroleum-based resources that are subject to potential supply constraints and significant price fluctuation, which could affect our operating results and profitability — In our production and distribution processes, we consume significant amounts of electricity, diesel fuel, liquid asphalt and other petroleum-based resources. The availability and pricing of these resources are subject to market forces that are beyond our control. Our suppliers contract separately for the purchase of such resources, and our sources of supply could be interrupted should our suppliers not be able to obtain these materials due to higher demand or other factors that interrupt their availability. Variability in the supply and prices of these resources could materially affect our operating results from period to period, and rising costs could erode our profitability.

Aggregates resources and reserves calculations are estimates only, and are subject to uncertainty due to factors including the inherent variability of the deposit and recoverability of saleable material in the mining process — 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, which may prove to be unpredictable. Until mineral reserves are actually mined and processed, the quantity must be considered as an estimate only.

We are involved in a number of legal proceedings. We cannot predict the outcome of litigation and other contingencies with certainty — We are involved in several complex litigation proceedings, some arising from our previous ownership and operation of a Chemicals business. Although we divested the Chemicals business in June 2005, we retained certain liabilities related to the business. As required by generally accepted accounting principles (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 in legal proceedings may affect our assessment and estimates of a loss contingency, and could result in an adverse effect on our financial position, results of operations or cash flows. For a description of our current significant legal proceedings see Note 12 "Commitments and Contingencies" in Item 8 "Financial Statements and Supplementary Data."

Our construction paving business may subject us to contractually imposed penalties or lost profits — We operate construction paving businesses in Alabama, Tennessee and Texas. In some instances, including many of our fixed price paving contracts, we agree to complete a project by a certain date. If we fail to complete the project as scheduled, we may be held responsible for costs resulting from the delay. Consequently, the total project cost could exceed our original estimate, and we could experience reduced profits or even a loss on the project.

We are involved in certain environmental matters. We cannot predict the outcome of these contingencies with certainty — 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. 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, and could result in an adverse effect on our financial position, results of operations or cash flows. For a description of our current significant environmental matters see Note 12 “Commitments and Contingencies” in Item 8 “Financial Statements and Supplementary Data.”

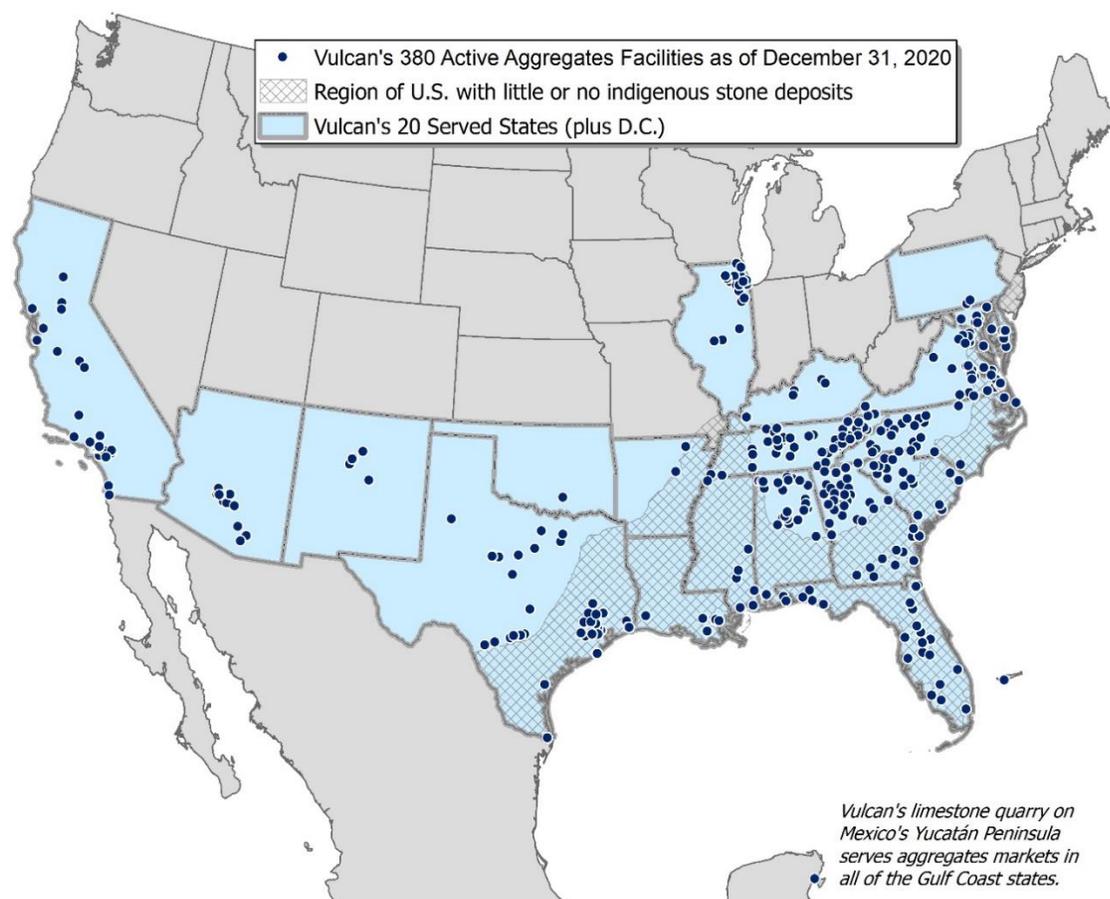
ITEM 1B

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 serve markets in twenty states, Washington D.C. and the local market surrounding our operation in 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 current estimate of 15.9 billion tons of proven and probable aggregates reserves reflects a decrease of 0.3 billion tons 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.

Proven, or measured, reserves are 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, or indicated, reserves are 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. Leases, zoning, permits, reclamation plans and other government or industry regulations 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. Our reserve estimates take into account these factors. Technical and economic factors also 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. In addition, computations for reserves in-place are adjusted for estimates of unsaleable sizes and materials as well as pit and plant waste.

The 15.9 billion tons of estimated proven and probable aggregates reserves reported at the end of 2020 include reserves at inactive and greenfield (undeveloped) sites. The table below presents, by division, the tons of proven and probable aggregates reserves as of December 31, 2020 and the types of facilities operated.

Division ¹	<i>(millions of tons)</i>			<i>Count of Aggregates Operating Facilities²</i>			
	<i>Aggregates Reserves</i>			2020 Production	Sand and		
	Proven	Probable	Total		Stone	Gravel	Sales Yards
Central	2,301.3	820.4	3,121.7	32.7	55	5	8
International	529.5	0.0	529.5	11.4	1	0	0
Mideast	2,422.8	981.2	3,404.0	34.0	37	4	24
Mountain West	216.1	112.8	328.9	8.7	2	13	2
Southeast ³	2,952.9	871.7	3,824.6	50.1	45	8	24
Southern Gulf Coast	1,804.1	52.4	1,856.5	23.1	24	0	19
Southwest	1,377.8	0.0	1,377.8	24.3	16	1	24
Western	761.9	737.4	1,499.3	18.8	5	12	1
Total	12,366.4	3,575.9	15,942.3	203.1	185	43	102

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

Central Division — Arkansas, Illinois, Kentucky and Tennessee

International Division — Mexico

Mideast Division — Delaware, Maryland, North Carolina, Pennsylvania, Virginia and Washington D.C.

Mountain West Division — Arizona and New Mexico

Southeast Division — Florida (excluding panhandle), Georgia and South Carolina

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

Southwest Division — Oklahoma and Texas

Western Division — California

² In addition to the aggregates facilities included in the table above, we operated 50 recycled concrete plants which are not dependent on reserves.

³ Includes a maximum of 314.2 million tons of reserves encumbered by volumetric production payments as defined in Note 2 "Revenues" in Item 8 "Financial Statements and Supplementary Data."

Of the 15.9 billion tons of aggregates reserves at December 31, 2020, 9.2 billion tons or 58% are located on owned land and 6.7 billion tons or 42% are located on leased land.

The following table lists our ten largest active aggregates facilities based on the total proven and probable reserves at the sites. None of our aggregates facilities contributed more than 5% to our total revenues in 2020.

Location (nearest major metropolitan area)	Reserves at 12/31/2020			2020 Production
	Proven	Probable	Total	
Playa del Carmen (Cancun), Mexico	529.5	0.0	529.5	11.4
Hanover (Harrisburg), Pennsylvania	221.5	236.4	457.9	2.0
McCook (Chicago), Illinois	96.8	266.5	363.3	4.4
Corona (Los Angeles), California	10.0	320.0	330.0	2.1
Gold Hill (Charlotte), North Carolina	146.7	121.2	267.9	0.9
Postell (Macon), Georgia	186.5	72.3	258.8	4.6
San Emidio (Bakersfield), California	28.5	221.5	250.0	0.9
Medina (San Antonio), Texas	244.6	0.0	244.6	2.8
Macon, Georgia	115.4	128.0	243.4	2.0
Norcross (Atlanta), Georgia	180.2	27.7	207.9	3.4

ASPHALT, CONCRETE AND CALCIUM

As of December 31, 2020, 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:

Division ¹	Asphalt ² Facilities	Concrete Facilities	Calcium ³ Facilities
Central	10	0	0
Mideast	0	36	0
Mountain West	21	0	0
Southeast	0	0	1
Southern Gulf Coast	2	0	0
Southwest	15	7	0
Western	22	3	0
Total	70	46	1

¹ 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.

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 which 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:

(millions of tons)

Location	Reserves at 12/31/2020			2020
	Proven	Probable	Total	Production
Brooksville	4.5	7.1	11.6	0.3

Our Brooksville limestone quarry is mined and processed primarily as 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 98.0%.

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, 2023, with three five-year renewal periods thereafter. The annual rental cost for the current term of the lease is approximately \$3.7 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 2020 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, 2021, 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	61
Suzanne H. Wood	Senior Vice President and Chief Financial Officer	60
Stanley G. Bass	Chief Strategy Officer	59
Thompson S. Baker II	Chief Operating Officer	62
David P. Clement	Senior Vice President, Mountain West and Western Divisions	60
Denson N. Franklin III	Senior Vice President, General Counsel and Secretary	57
Jerry F. Perkins Jr.	Senior Vice President, Southern & Gulf Coast and Southwest Divisions	51
Jason P. Teter	Senior Vice President, Mideast and Southeast Divisions	46
Randy L. Pigg	Vice President, Controller and Principal Accounting Officer	48

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 – 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.

Suzanne H. Wood was elected Senior Vice President, Chief Financial Officer effective September 2018 and also served as Secretary from September 2019 to December 2019. From 2012 to 2018, she served as Group Finance Director and Chief Financial Officer of Ashtead Group plc, a FTSE 50 international equipment rental company serving the construction industry and other markets. Prior to that, she was Executive Vice President and Chief Financial Officer of Sunbelt Rentals, Inc., the North American subsidiary of Ashtead Group plc. A certified public accountant, she also previously held Chief Financial Officer positions at Tultex Corporation and Oakwood Homes Corporation. She currently serves on the board of directors and is chair of the audit committee of RELX Group, a FTSE 50 global professional information and analytics company. She also serves on the board of directors, audit committee and nominations committee of Ferguson plc, the FTSE 100 leading distributor of plumbing and heating products.

Stanley G. Bass was elected Chief Strategy Officer in February 2021. Prior to that he served as Chief Growth Officer as of February 2016. He served as Senior Vice President – Western and Mountain West Divisions from January 2015 to February 2016, and Senior Vice President – West Region from September 2013 to December 2014. Prior to that, he served as Senior Vice President – Central and West Regions from February 2013 to September 2013 and Senior Vice President – 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 – 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.

David P. Clement was appointed Senior Vice President of the Mountain West and Western Divisions in 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 most recently as president of the Central Division.

Denson N. Franklin III joined us 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. was appointed Senior Vice President of the Southern & Gulf Coast and Southwest Divisions in March 2020. Prior to his current position, 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.

Jason P. Teter was appointed Senior Vice President of the Mideast and Southeast Divisions in March 2020. Prior to his current position, he was president of the Southeast Division. He joined Vulcan in 2013 as vice president of business development. He also served as vice president of finance for Vulcan and president of the Southern and 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 – 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 12, 2021, the number of shareholders of record was 2,379.

ISSUER PURCHASES OF EQUITY SECURITIES

Purchases of our equity securities during the quarter ended December 31, 2020 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 Programs ¹</i>
2020				
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, 2020, 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 2020.

Management's discussion and analysis is intended to help investors understand our operations and current business environment. 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 2020 and 2019. For the discussion of changes from 2018 to 2019 and other financial information related to 2018, 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, 2019 filed with the Securities and Exchange Commission on February 26, 2020.

EXECUTIVE SUMMARY

FINANCIAL SUMMARY FOR 2020 (compared to 2019)

- Total revenues decreased \$72.3 million, or 1.5%, to \$4,856.8 million
- Gross profit increased \$25.6 million, or 2%, to \$1,281.5 million
- Aggregates segment sales decreased \$46.0 million, or 1%, to \$3,944.3 million
- Aggregates segment freight-adjusted revenues decreased \$6.5 million, or less than 1%, to \$3,007.6 million
 - Shipments decreased 3%, or 7.2 million tons, to 208.3 million tons
 - Freight-adjusted sales price increased 3.2%, or \$0.45 per ton to \$14.44
 - Segment gross profit increased \$12.5 million, or 1%, to \$1,159.2 million
- Asphalt, Concrete and Calcium segment gross profit increased \$13.1 million, or 12%, to \$122.3 million, collectively
- Selling, administrative and general (SAG) expenses decreased 3% to \$359.8 million and decreased 0.1 percentage points (10 basis points) as a percentage of total revenues
- Operating earnings increased \$18.3 million, or 2%, to \$895.7 million
- Earnings from continuing operations before income taxes were \$743.8 million compared to \$757.7 million
- Earnings from continuing operations were \$588.0 million, or \$4.41 per diluted share, compared to \$622.5 million, or \$4.67 per diluted share
 - Discrete items in 2020 include:
 - pretax charges of \$6.9 million for divested operations
 - pretax charges of \$7.3 million associated with non-routine business development
 - pretax charges of \$10.2 million for COVID-19 pandemic direct incremental costs
 - pretax charges of \$22.7 million for pension settlement
 - pretax charges of \$1.3 million for restructuring
 - Discrete items in 2019 include:
 - pretax gains of \$13.4 million for the sale of businesses and property donation
 - pretax charges of \$10.8 million for property donation
 - pretax charges of \$3.0 million for divested operations
 - pretax charges of \$1.7 million associated with non-routine business development
 - pretax charges of \$6.5 million for restructuring
- Adjusted (for the discrete pretax items noted above) earnings from continuing operations were \$4.68 per diluted share, compared to \$4.70 per diluted share
- Net earnings were \$584.5 million, a decrease of \$33.2 million, or 5%
- Adjusted EBITDA was \$1,323.5 million, an increase of \$53.5 million, or 4%
- Returned capital to shareholders via dividends (\$180.2 million versus \$164.0 million) and share repurchases (\$26.1 million versus \$2.6 million)

Our best-in-class aggregates business, along with the efforts and dedication of our employees, allowed us to overcome COVID-19 related disruptions in 2020. As we saw in 2020, demand for our products can be subject to market fluctuations outside of our control. We remain focused on the factors within our control, including our pricing and cost actions, both of which contributed to further improvement in our industry-leading unit margins in 2020. Most impressive, we delivered year-over-year gains in aggregates unit profitability throughout each quarter in 2020. Our ability to leverage our four strategic disciplines — Commercial and Operational Excellence, Logistics Innovation and Strategic Sourcing — enabled us to expand unit margins, deliver improved cash flows, and increase returns on invested capital. Our team's hard work along with our leading market positions and strong financial foundation will enable us to capitalize on an improving demand outlook in 2021.

Our operating plans are underpinned by our aforementioned four strategic disciplines, a healthy balance sheet, strong liquidity, and the engagement of our people. 2020 revenues were \$4,856.8 million, 1% lower than the prior year, while gross profit margins expanded across each segment. Effective cost management throughout the organization and aggregates price growth helped drive margin expansion. Net earnings were \$584.5 million and Adjusted EBITDA was a record \$1,323.5 million.

At year end, total debt to 2020 Adjusted EBITDA was 2.5 times or 1.6 times on a net debt basis reflecting \$1,198.0 million of cash on hand — approximately \$500.0 million will be used to pay off certain debt maturities due in March 2021. Our weighted-average debt maturity was 13 years, and the effective weighted-average interest rate was 4.1%.

Return on invested capital increased 0.4 percentage points (40 basis points) from the prior year to 14.3%. Operating cash flows were \$1,070.4 million, up 9% versus the previous year. Solid operating earnings growth coupled with disciplined capital management led to these results.

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 2020, we invested \$239.3 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 2020, we invested \$122.9 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. During the fourth quarter of 2020, we restarted planned growth projects that were put on hold in March 2020 as a result of the pandemic. 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. 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 two business acquisitions during 2020 for total consideration of \$73.4 million.

Our third priority is growing the dividend with a keen focus on sustainability through the economic cycle. During 2020, we paid a dividend per share of \$1.36 and paid total dividends of \$180.2 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 2020, we returned \$26.1 million to our shareholders through 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

Construction employment gains in key markets are a positive signal that activity levels are recovering across our footprint, as compelling fundamentals in residential construction support growing demand in 2021. Shipments into private nonresidential continue to benefit from growth in heavy industrial projects such as data centers and warehouses, while construction starts in other categories remain below the prior year. Recent improvements in highway lettings and contract awards indicate growing confidence and visibility fueling advancement of planned projects, particularly in the second half of 2021.

The pricing environment remains positive and we continue to execute at a high level — positioning us well for 2021. We are encouraged by the continued strength in residential construction activity, particularly single-family housing. Our expectation is also supported by the recent improvement in highway awards and construction employment trends in key markets. Data centers, distribution centers, and warehouses, which now comprise the largest share of new private nonresidential project awards, will continue to underpin demand in this end market. We believe these leading indicators, along with sustaining a positive pricing environment, can be a catalyst for further recovery in construction activity during 2021.

Management expectations for 2021 include:

- Aggregates shipments down 2% to up 2% versus 2020
- Aggregates freight-adjusted price increase of 2% to 4% from 2020
- Collective Asphalt, Concrete and Calcium segment gross profit up mid-to high single digits
- SAG expenses of \$365 million to \$375 million
- Interest expense of approximately \$130 million
- Depreciation, depletion, accretion and amortization expense of approximately \$400 million
- An effective tax rate of approximately 21%
- Earnings from continuing operations of \$4.80 to \$5.40 per diluted share
- Net earnings of \$640 million to \$720 million
- Adjusted EBITDA of \$1.340 billion to \$1.440 billion
- No major changes in COVID shelter-in-place restrictions

Additionally, we expect to spend between \$450 million and \$475 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.

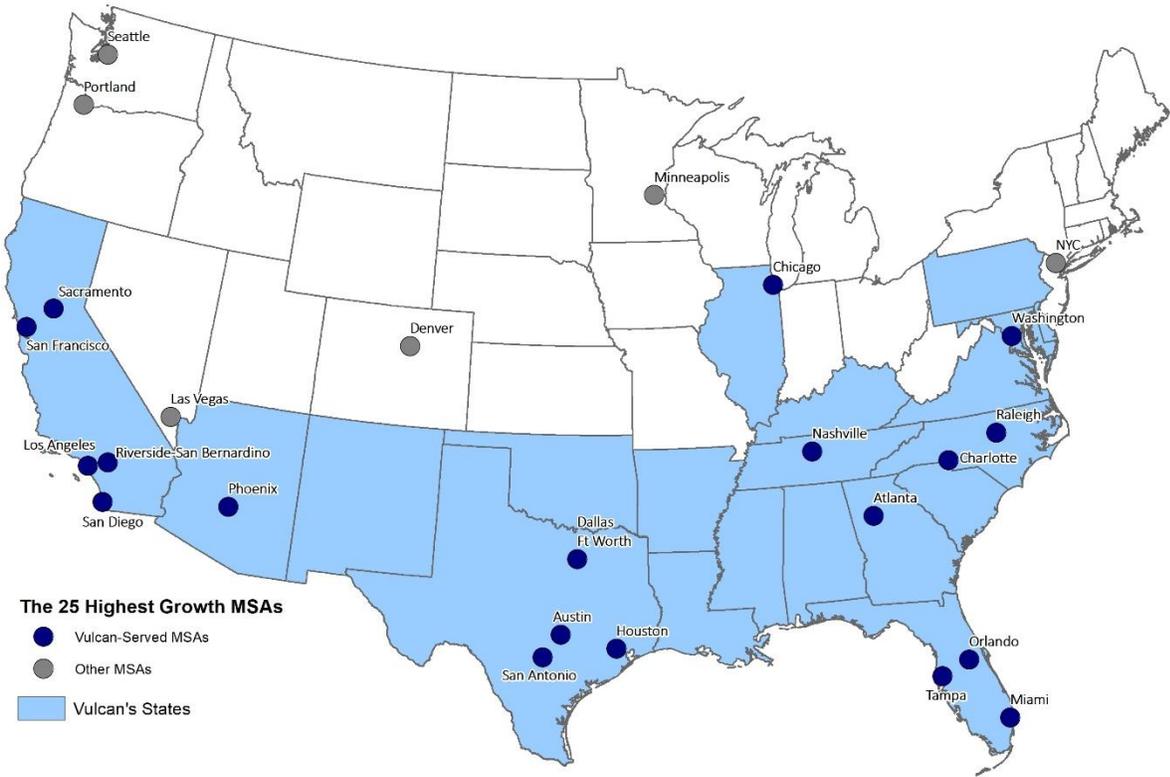
For support functions, we previously implemented remote work arrangements and restricted business travel effective mid-March 2020. To date, these arrangements have not materially affected our ability to maintain our business operations, including the operation of financial reporting systems, internal control over financial reporting, and disclosure controls and procedures.

COMPETITIVE ADVANTAGES

AGGREGATES FOOTPRINT

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 19 of the top 25 highest-growth metropolitan statistical areas (MSAs) and states where 73% of U.S. population growth from 2020 to 2030 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 2020
Based on people added from 2020 to 2030

COMPOUNDING IMPROVEMENT IN PROFITABILITY

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 — operational excellence, strategic sourcing, commercial excellence and logistics innovation (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



We are currently operating considerably below full capacity making us extremely well positioned to further benefit from economies of scale as markets recover from the COVID-19 pandemic.

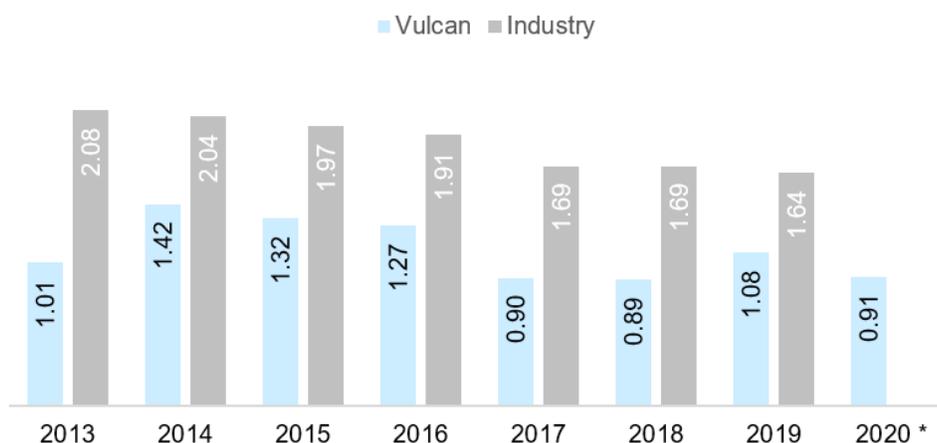
SAFETY, HEALTH AND ENVIRONMENTAL PERFORMANCE

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 consistently outperforming the industry.

Vulcan MSHA Injury Rate Compared to Aggregates Industry

Number of Injuries per 200,000 Hours Worked



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

* The aggregates industry MSHA injury rate for 2020 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 98.6% citation-free inspections out of all 2020 federal and state environmental inspections.

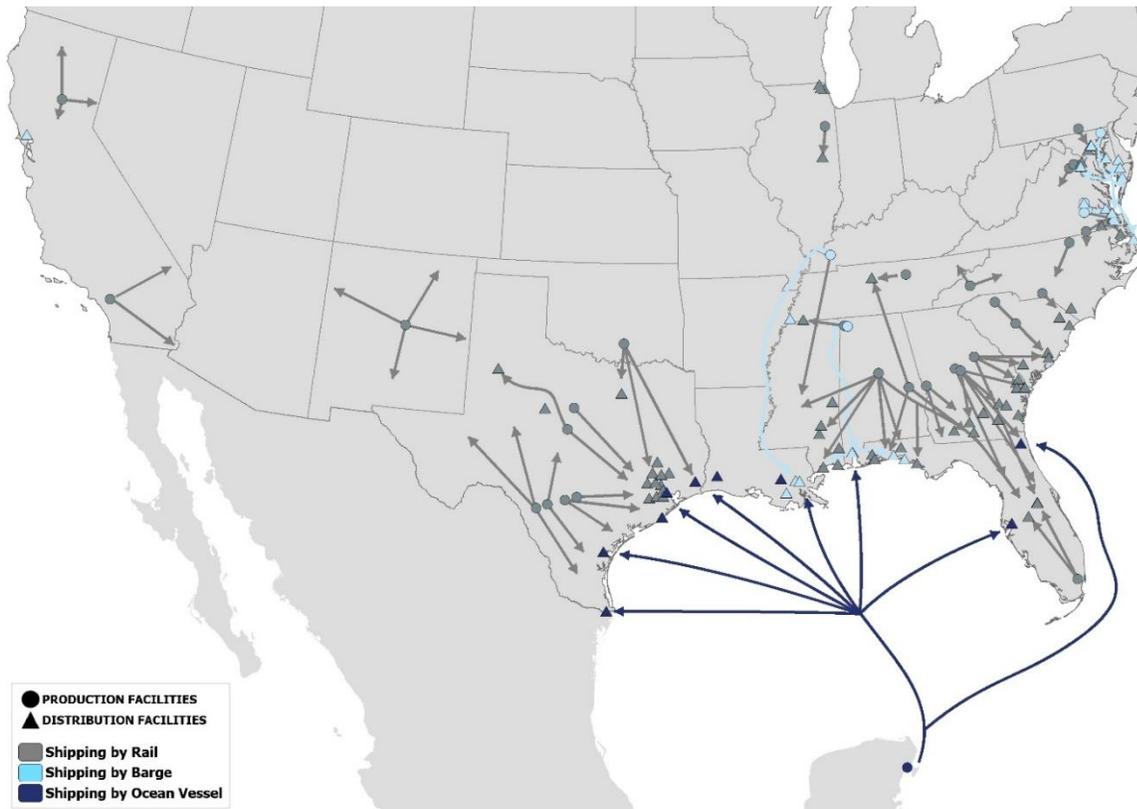
We lead community relations programs that serve our neighbors while ensuring that we grow and thrive in the communities where we operate. During 2020, we operated 37 certified wildlife habitat sites, the fourth largest number of sites in the nation, as certified by the Wildlife Habitat Council. We provided over 160 scholarships to students nationwide and emphasized COVID-19 support as well as diversity and inclusion in our community outreach and contributions.

We recognize that the aggregates mining in which we engage is an interim use of the approximately 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.

CUSTOMER SERVICE

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.

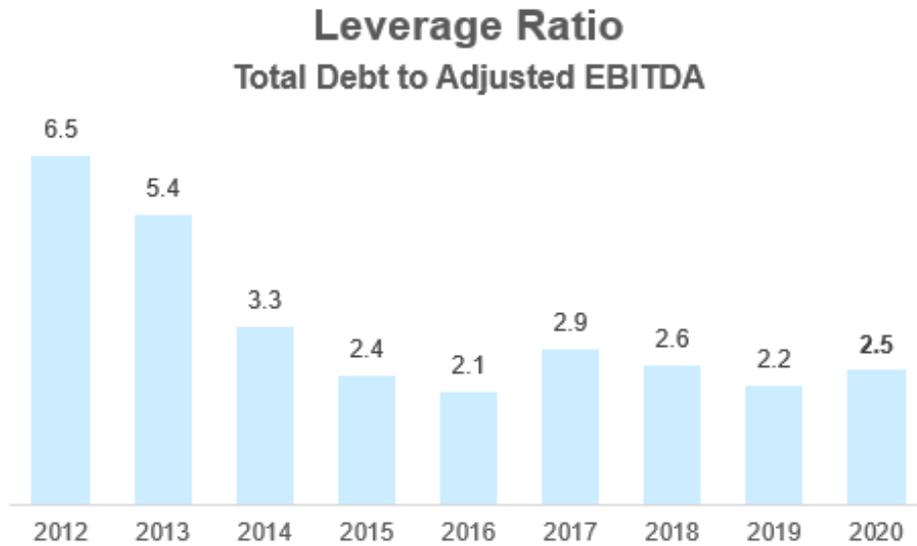
Transportation costs are passed along to our customers, and because aggregates have a very high weight-to-value ratio, those costs can add up quickly when transporting aggregates long distances. Having the most extensive distribution network of any aggregates producer sets us apart. Combining our trucking, 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.

STRONG FINANCIAL FOUNDATION

Our financial position is strong as evidenced by our investment-grade credit ratings (Fitch BBB-/Moody's Baa2/Standard & Poor's BBB+). At December 31, 2020, our available liquidity was \$2,141.0 million, including \$1,198.0 million of cash on hand, substantially higher than our liquidity needs. Our leverage ratio, as measured by total debt to Adjusted EBITDA, has improved from 6.5x at December 31, 2012 to 2.5x at December 31, 2020 (and our net debt to Adjusted EBITDA at December 31, 2020 is 1.6x), 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 13 years) and reduced the cost of the debt (weighted average interest rate from 7.55% to 4.10%).



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>	2020	2019	2018
Total revenues	\$ 4,856.8	\$ 4,929.1	\$ 4,382.9
Cost of revenues	3,575.3	3,673.2	3,282.0
Gross profit	\$ 1,281.5	\$ 1,255.9	\$ 1,100.9
<i>Gross profit margin</i>	26.4%	25.5%	25.1%
Selling, administrative and general expenses (SAG)	\$ 359.8	\$ 370.5	\$ 333.4
<i>SAG as a percentage of total revenues</i>	7.4%	7.5%	7.6%
Operating earnings	\$ 895.7	\$ 877.5	\$ 747.7
Interest expense	\$ 136.0	\$ 130.2	\$ 138.0
Earnings from continuing operations before income taxes	\$ 743.8	\$ 757.7	\$ 623.3
Income tax expense	\$ 155.8	\$ 135.2	\$ 105.4
<i>Effective tax rate from continuing operations</i>	20.9%	17.8%	16.9%
Earnings from continuing operations	\$ 588.0	\$ 622.5	\$ 517.8
Loss on discontinued operations, net of income taxes	(3.5)	(4.8)	(2.0)
Net earnings	\$ 584.5	\$ 617.7	\$ 515.8
Diluted earnings (loss) per share			
Continuing operations	\$ 4.41	\$ 4.67	\$ 3.87
Discontinued operations	(0.02)	(0.04)	(0.02)
Diluted net earnings per share	\$ 4.39	\$ 4.63	\$ 3.85
EBITDA ¹	\$ 1,275.0	\$ 1,261.3	\$ 1,107.0
Adjusted EBITDA ¹	\$ 1,323.5	\$ 1,270.0	\$ 1,131.7
Average Sales Price and Unit Shipments			
Aggregates			
Tons (thousands)	208,295	215,465	201,375
Freight-adjusted sales price	\$ 14.44	\$ 13.99	\$ 13.25
Asphalt Mix			
Tons (thousands)	11,835	12,665	11,318
Average sales price	\$ 57.97	\$ 57.79	\$ 55.13
Ready-mixed concrete			
Cubic yards (thousands)	2,951	3,104	3,223
Average sales price	\$ 128.93	\$ 126.38	\$ 123.35
Calcium			
Tons (thousands)	282	294	285
Average sales price	\$ 27.32	\$ 27.85	\$ 28.44

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

Net earnings for 2020 were \$584.5 million (\$4.39 per diluted share) compared to \$617.7 million (\$4.63 per diluted share) in 2019 and \$515.8 million (\$3.85 per diluted share) in 2018. Each year's results were impacted by discrete items, as follows:

Net earnings for 2020 include:

- pretax charges of \$6.9 million associated with divested operations
- pretax charges of \$7.3 million associated with non-routine business development
- pretax charges of \$10.2 million for COVID-19 pandemic direct incremental costs
- pretax charges of \$22.7 million for pension settlement (see Note 10 "Benefit Plans" in Item 8 "Financial Statements and Supplementary Data")
- pretax charges of \$1.3 million for restructuring

Net earnings for 2019 include:

- pretax gains of \$13.4 million related to the sale of businesses and property donation
- pretax charges of \$10.8 million for property donation
- pretax charges of \$3.0 million associated with divested operations
- pretax charges of \$1.7 million associated with non-routine business development
- pretax charges of \$6.5 million for restructuring

Adjusted for these discrete items, earnings from continuing operations (Adjusted Diluted EPS) was \$4.68 per diluted share for 2020 compared to \$4.70 per diluted share for 2019. In comparison, the 2019 Adjusted Diluted EPS benefited from a lower tax rate due to certain tax benefits and credits that were higher than in 2020. The effect of the resulting higher tax rate in 2020 was \$0.18 per diluted share.

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>				
	2018	\$ 623.3	2019	\$ 757.7
Higher aggregates gross profit		154.8		12.5
Higher asphalt gross profit		6.5		12.2
Higher (lower) concrete gross profit		(6.7)		1.0
Higher (lower) calcium gross profit		0.4		(0.2)
Lower (higher) selling, administrative and general expenses		(37.2)		10.8
Higher (lower) gain on sale of property, plant & equipment and businesses		8.8		(19.8)
Lower (higher) interest expense		7.8		(5.8)
Pension settlement charge		0.0		(22.7)
All other		0.0		(1.9)
	2019	\$ 757.7	2020	\$ 743.8

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.

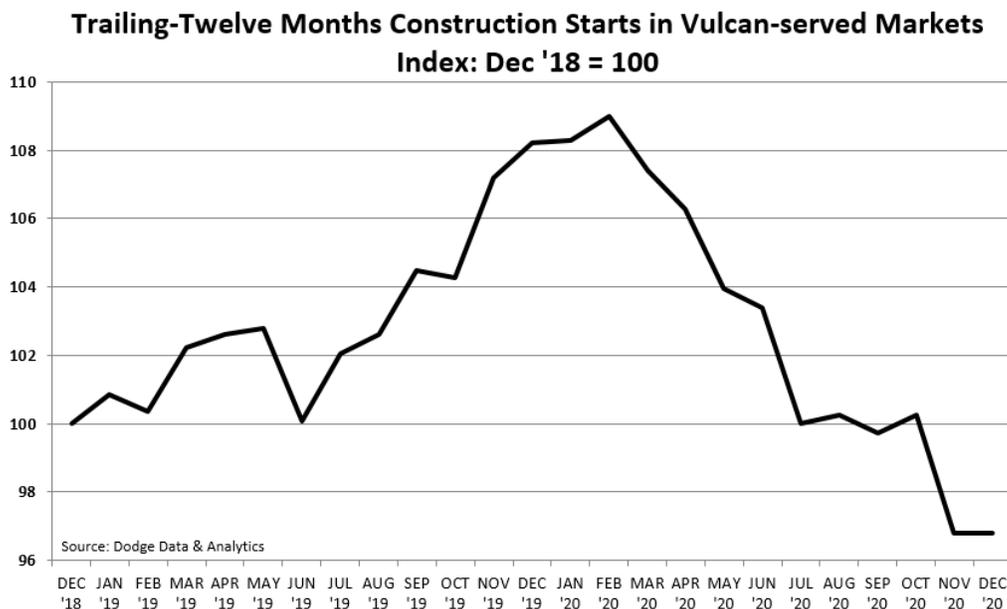
1. AGGREGATES

Our year-over-year aggregates shipments:

- decreased 3% in 2020
- increased 7% in 2019
- increased 10% in 2018 ¹

¹ Of the 10% increase in 2018 shipments, 3% was attributable to the fourth quarter 2017 acquisition of Aggregates USA.

Aggregates shipments declined 3% (3% same-store) primarily as a result of COVID-19 disruptions with wide variances in the amount of disruption across our markets. However, previously-noted recent improvements in highway lettings and contract awards indicate growing confidence and visibility which should fuel the advancement of planned projects, particularly in the second half of 2021. We intend to capitalize on this improving demand outlook in 2021 utilizing teamwork, our leading market positions and strong financial position.



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

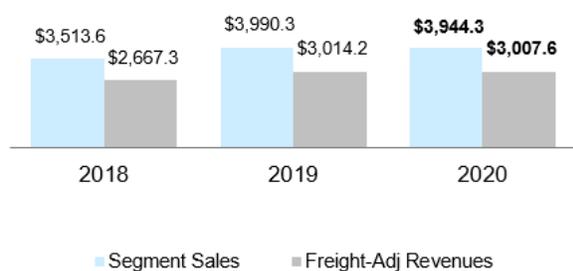
- increased 3.2% in 2020
- increased 5.6% in 2019
- increased 1.5% in 2018

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.

Despite the 3% decline in shipments, aggregates freight-adjusted pricing increased 3.2%, or \$0.45 per ton, with a positive pricing environment across our footprint. On a mix-adjusted basis, pricing increased 3.1% and all of our markets reported price growth.

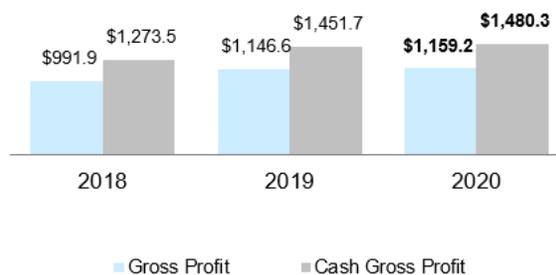
AGGREGATES SEGMENT SALES AND FREIGHT-ADJUSTED REVENUES

in millions



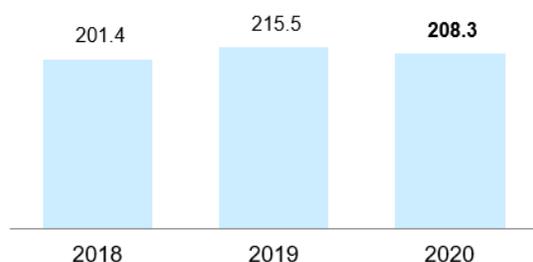
AGGREGATES GROSS PROFIT AND CASH GROSS PROFIT

in millions



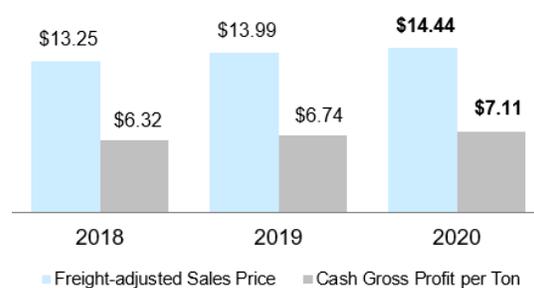
AGGREGATES UNIT SHIPMENTS

tons, in millions



AGGREGATES SELLING PRICE AND CASH GROSS PROFIT PER TON

Freight-adjusted average sales price per ton ¹



¹ Freight-adjusted sales price is calculated as freight-adjusted revenues divided by aggregates unit shipments

Freight-adjusted unit cost of sales increased 2% (1% on a cash basis). Flexible operating plans, disciplined cost control and lower diesel fuel costs mitigated the impact of operational disruptions caused by the COVID-19 pandemic. The Aggregates segment earnings impact from lower diesel fuel cost was \$34.0 million.

Aggregates segment gross profit increased \$12.5 million, or 1%, to \$1,159.2 million due to growth in pricing and effective price control and despite the 3% decline in shipments. Unit profitability (as measured by gross profit per ton) grew by 5% to \$5.57 per ton. Our focus on compounding unit margins allowed us to deliver year-over-year gains in aggregates unit profitability throughout each quarter of 2020.

2. ASPHALT

Our year-over-year asphalt mix shipments:

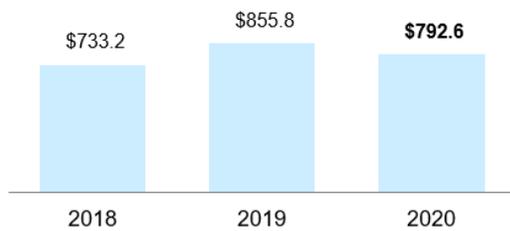
- decreased 7% in 2020
- increased 12% in 2019
- increased 4% in 2018 ¹

¹ The 4% increase in asphalt mix shipments in 2018 was attributable to first and second quarter 2018 acquisitions of asphalt mix operations and construction paving businesses in Alabama and Texas, coupled with the fourth quarter 2017 swap of our concrete operations for asphalt operations in Arizona. Same-store declined 2%.

Asphalt segment gross profit of \$75.2 million was \$12.2 million or 19% higher than 2019. Asphalt mix shipments decreased 7% while material margins (sales price less unit cost of raw materials) increased 13%, or \$2.30 per ton. Segment earnings benefited from price discipline and effective cost containment, including lower liquid asphalt costs. The average unit cost for liquid asphalt was 15% lower than 2019, positively affecting costs by \$37.2 million.

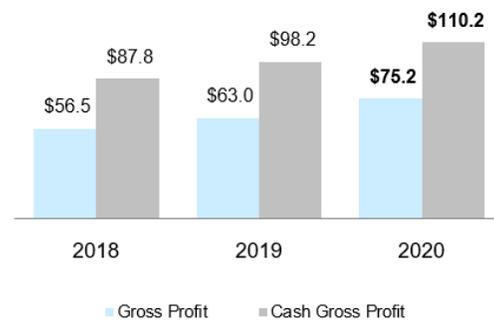
ASPHALT SEGMENT SALES

in millions



ASPHALT GROSS PROFIT AND CASH GROSS PROFIT

in millions



3. CONCRETE

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

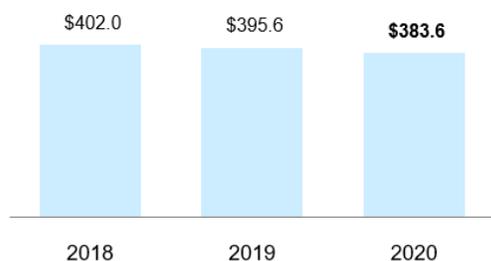
- decreased 5% in 2020
- decreased 4% in 2019
- decreased 10% in 2018 ¹

¹ The 10% decrease in ready-mixed concrete shipments in 2018 was attributable to the March 2018 disposition of ready-mixed concrete facilities in Georgia, and the fourth quarter 2017 swap of our concrete operations for asphalt operations in Arizona.

Concrete segment gross profit was \$44.2 million, up 2% from 2019 despite a 5% decline in shipments (-9% same-store). Improved material margins per cubic yard of 3% (2% same-store) and unit profitability (as measured by gross profit per cubic yard) of 8% (10% same-store) offset the shipment decline. Shipments for the year were negatively impacted by both wildfires and cement supply shortages in Northern California resulting from pandemic disruptions.

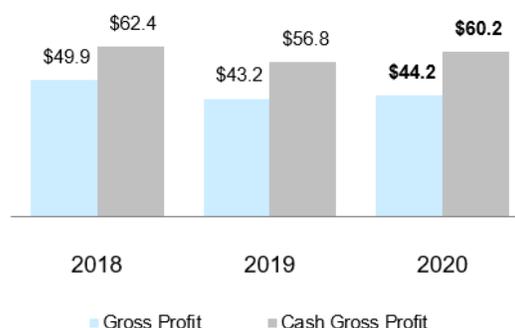
CONCRETE SEGMENT SALES

in millions



CONCRETE GROSS PROFIT AND CASH GROSS PROFIT

in millions

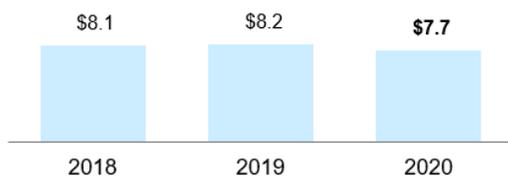


4. CALCIUM

Calcium segment gross profit decreased 5% from 2019 to \$2.9 million.

CALCIUM SEGMENT SALES

in millions



CALCIUM GROSS PROFIT AND CASH GROSS PROFIT

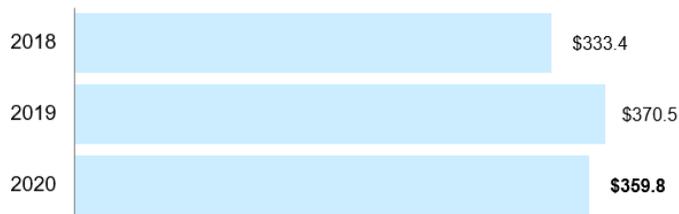
in millions



In total, the 2020 gross profit contribution from our three non-aggregates (Asphalt, Concrete and Calcium) segments was \$122.3 million, a \$13.1 million or 12% increase from 2019. Each segment reported unit margin expansion on lower segment sales.

SELLING, ADMINISTRATIVE AND GENERAL (SAG) EXPENSES

in millions



As a percentage of total revenues, SAG expense was:

- 7.4% in 2020 — decreased 0.10 percentage points (10 basis points)
- 7.5% in 2019 — decreased 0.10 percentage points (10 basis points)
- 7.6% in 2018 — decreased 0.75 percentage points (75 basis points)

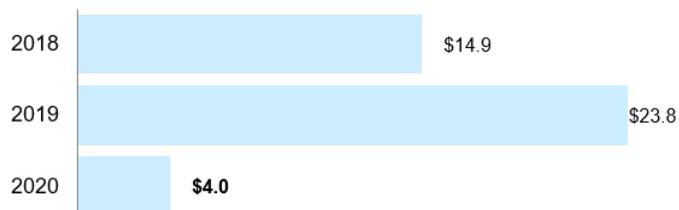
Our comparative total company employment levels at year end:

- decreased 2% in 2020
- increased 6% in 2019
- increased 6% in 2018

Prior increases in our employment levels were partially driven by our acquisitions (see Note 19 “Acquisitions and Divestitures” in Item 8 “Financial Statements and Supplementary Data”). As noted above, 2020 SAG expenses were \$359.8 million or 7.4% as a percentage of total revenues, down from 7.5% in 2019. We remain focused on further leveraging our overhead cost structure.

GAIN ON SALE OF PROPERTY, PLANT & EQUIPMENT AND BUSINESSES

in millions



The 2020 gain on sale of property, plant & equipment and businesses of \$4.0 million includes a net immaterial pretax loss from ready-mix concrete divestitures. The 2019 gain on sale of property, plant & equipment and businesses of \$23.8 million includes: (1) \$4.1 million of pretax gain from the sale of two aggregates operations in Georgia, (2) the reversal of a contingent payable related to the 2017 Department of Justice required divestiture of former Aggregates USA operations and (3) \$9.3 million of pretax gain related to property donations. See Note 19 “Acquisitions and Divestitures” in Item 8 “Financial Statements and Supplementary Data.”

OTHER OPERATING EXPENSE, NET

Other operating expense, which has an approximate run-rate of \$12.0 million a year (exclusive of discrete items), is composed primarily of idle facilities expense, environmental remediation costs, property abandonments and gain (loss) on settlement of AROs. Total other operating expense and significant discrete items included in the total were:

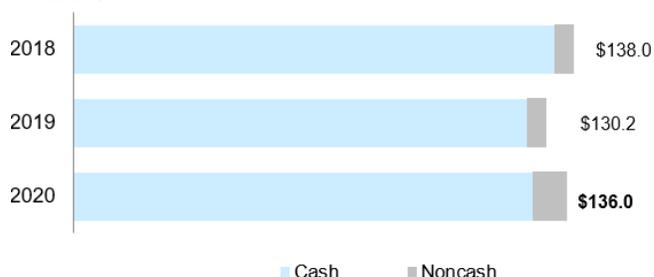
- \$30.0 million in 2020 — includes discrete items as follows:
 - \$6.9 million of charges associated with divested operations, composed entirely of environmental liability accruals associated with previously divested properties
 - \$10.2 million of charges related to COVID-19 pandemic direct incremental costs
 - \$1.3 million of managerial restructuring charges
- \$31.6 million in 2019 — includes discrete items as follows:
 - \$10.8 million of charges related to property donations
 - \$3.0 million of charges associated with divested operations, composed entirely of environmental liability accruals associated with previously divested properties
 - \$6.5 million of managerial restructuring charges

OTHER NONOPERATING INCOME (EXPENSE), NET

Other nonoperating income (expense) (2020 — \$(17.5) million, 2019 — \$9.2 million and 2018 — \$13.0 million) is 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. Additionally, during 2020, we incurred a \$22.7 million non-cash pension settlement charge — 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 \$136.0 million in 2020 compared to \$130.2 million in 2019 and \$138.0 million in 2018. 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>	<i>2020</i>	<i>2019</i>	<i>2018</i>
Earnings from continuing operations			
before income taxes	\$ 743.8	\$ 757.7	\$ 623.3
Income tax expense	\$ 155.8	\$ 135.2	\$ 105.4
Effective tax rate	20.9%	17.8%	16.9%

The \$20.6 million increase in our 2020 income tax expense was primarily related to a decrease in excess tax benefits from share-based compensation and a smaller research & development tax credit. The \$29.8 million increase in our 2019 income tax expense was primarily related to an increase in earnings.

In response to the COVID-19 pandemic, the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) was signed into law in March 2020. The CARES Act provides numerous tax relief provisions and stimulus measures. A temporary favorable change to the prior year and current year limitations on interest deductions and a temporary suspension of certain payment requirements for the employer portion of Social Security taxes are the relief provisions that are expected to provide us the greatest benefit. In the first quarter of 2020, an expected cash tax benefit of \$13.3 million was recorded to account for the favorable change to the prior year limitation on interest deductions.

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

DISCONTINUED OPERATIONS

Pretax earnings (loss) from discontinued operations were:

- \$(4.7) million in 2020
- \$(6.5) million in 2019
- \$(2.7) million in 2018

Pretax earnings (loss) from discontinued operations for 2020, 2019 and 2018, resulted primarily from general and product liability costs, including legal defense costs and environmental remediation costs associated with our former Chemicals business. For additional information about discontinued operations, see Note 1 “Summary of Significant Accounting Policies” in Item 8 “Financial Statements and Supplementary Data” under the caption Discontinued Operations.

RECONCILIATION OF NON-GAAP FINANCIAL MEASURES

SAME-STORE

We have provided certain information on a same-store basis. When discussing our financial results in comparison to prior periods, we may exclude the operating results of recently acquired/divested businesses that do not have comparable results in the periods being discussed. These recently acquired/divested businesses are disclosed in Note 19 “Acquisitions and Divestitures” in Item 8 “Financial Statements and Supplementary Data.” This approach allows us to evaluate the performance of our operations on a comparable basis. We believe that measuring performance on a same-store basis is useful to investors because it enables evaluation of how our operations are performing period over period without the effects of acquisition and divestiture activity. Our same-store information may not be comparable to similar measures used by other companies.

AGGREGATES SEGMENT FREIGHT-ADJUSTED REVENUES

Aggregates segment freight-adjusted revenues is not a Generally Accepted Accounting Principle (GAAP) measure. 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 immaterial 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>	<i>2020</i>	<i>2019</i>	<i>2018</i>
Aggregates segment			
Segment sales	\$ 3,944.3	\$ 3,990.3	\$ 3,513.6
Less			
Freight & delivery revenues ¹	877.0	921.1	796.9
Other revenues	59.7	55.0	49.4
Freight-adjusted revenues	\$ 3,007.6	\$ 3,014.2	\$ 2,667.3
Unit shipments - tons	208.3	215.5	201.4
Freight-adjusted sales price	\$ 14.44	\$ 13.99	\$ 13.25

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.

AGGREGATES SEGMENT INCREMENTAL GROSS PROFIT

Aggregates segment incremental gross profit flow-through rate is not a GAAP measure and represents the year-over-year change in gross profit divided by the year-over-year change in segment sales excluding freight & delivery (revenues and costs). We present this metric 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. Reconciliation of this metric to its nearest GAAP measure is presented below:

MARGIN IN ACCORDANCE WITH GAAP

<i>dollars in millions</i>	2020	2019	2018
Aggregates segment			
Gross profit	\$ 1,159.2	\$ 1,146.6	\$ 991.9
Segment sales	\$ 3,944.3	\$ 3,990.3	\$ 3,513.6
Gross profit margin	29.4%	28.7%	28.2%
Incremental gross profit margin ¹	N/A	32.5%	

FLOW-THROUGH RATE (NON-GAAP)

<i>dollars in millions</i>	2020	2019
Aggregates segment		
Gross profit	\$ 1,159.2	\$ 1,146.6
Less: Contribution from acquisitions (same-store)	0.8	0.2
Same-store gross profit	\$ 1,158.4	\$ 1,146.4
Segment sales	\$ 3,944.3	\$ 3,990.3
Less: Freight & delivery revenues ²	877.0	921.1
Segment sales excluding freight & delivery	\$ 3,067.3	\$ 3,069.2
Less: Contribution from acquisitions (same-store)	2.6	1.0
Same-store segment sales excluding freight & delivery	\$ 3,064.7	\$ 3,068.2
Gross profit margin excluding freight & delivery	37.8%	37.4%
Same-store gross profit margin excluding freight & delivery	37.8%	37.4%
Incremental gross profit flow-through rate ¹	N/A	
Same-store incremental gross profit flow-through rate ¹	N/A	

¹ Not applicable due to the decrease in segment sales.

² 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. Aggregates segment cash gross profit per ton is computed by dividing Aggregates segment cash gross profit by tons shipped. Reconciliation of this metric to its nearest GAAP measure is presented below:

<i>in millions, except per ton data</i>	2020	2019	2018
Aggregates segment			
Gross profit	\$ 1,159.2	\$ 1,146.6	\$ 991.9
Depreciation, depletion, accretion and amortization	321.1	305.1	281.6
Aggregates segment cash gross profit	\$ 1,480.3	\$ 1,451.7	\$ 1,273.5
Unit shipments - tons	208.3	215.5	201.4
Aggregates segment gross profit per ton	\$ 5.57	\$ 5.32	\$ 4.93
Aggregates segment cash gross profit per ton	\$ 7.11	\$ 6.74	\$ 6.32
Asphalt segment			
Gross profit	\$ 75.2	\$ 63.0	\$ 56.5
Depreciation, depletion, accretion and amortization	35.0	35.2	31.3
Asphalt segment cash gross profit	\$ 110.2	\$ 98.2	\$ 87.8
Concrete segment			
Gross profit	\$ 44.2	\$ 43.2	\$ 49.9
Depreciation, depletion, accretion and amortization	16.0	13.6	12.5
Concrete segment cash gross profit	\$ 60.2	\$ 56.8	\$ 62.4
Calcium segment			
Gross profit	\$ 2.9	\$ 3.1	\$ 2.7
Depreciation, depletion, accretion and amortization	0.2	0.2	0.3
Calcium segment cash gross profit	\$ 3.1	\$ 3.3	\$ 3.0

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 of this metric to its nearest GAAP measure is presented below:

<i>in millions</i>	2020	2019
Debt		
Current maturities of long-term debt	\$ 515.4	\$ 0.0
Long-term debt	2,772.3	2,784.3
Total debt	\$ 3,287.7	\$ 2,784.3
Less: Cash and cash equivalents and restricted cash	1,198.0	274.5
Net debt	\$ 2,089.7	\$ 2,509.8
Adjusted EBITDA	\$ 1,323.5	\$ 1,270.0
Total debt to Adjusted EBITDA	2.5x	2.2x
Net debt to Adjusted EBITDA	1.6x	2.0x

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>	2020	2019	2018
Net earnings	\$ 584.5	\$ 617.7	\$ 515.8
Income tax expense	155.8	135.2	105.4
Interest expense, net of interest income	134.4	129.0	137.6
Loss on discontinued operations, net of tax	3.5	4.8	2.0
EBIT	878.2	886.7	760.8
Depreciation, depletion, accretion and amortization	396.8	374.6	346.2
EBITDA	\$ 1,275.0	\$ 1,261.3	\$ 1,107.0
Gain on sale of businesses ¹	\$ 0.0	\$ (13.4)	\$ (2.9)
Property donation	0.0	10.8	0.0
Business interruption claims recovery	0.0	0.0	(2.3)
Charges associated with divested operations	6.9	3.0	18.5
Business development ²	7.3	1.7	5.2
COVID-19 direct incremental costs	10.2	0.0	0.0
Pension settlement charge	22.7	0.0	0.0
Restructuring charges	1.3	6.5	6.2
Adjusted EBITDA	\$ 1,323.5	\$ 1,270.0	\$ 1,131.7
Depreciation, depletion, accretion and amortization	396.8	374.6	346.2
Adjusted EBIT	\$ 926.7	\$ 895.4	\$ 785.5

¹ Includes \$9.2 million of gains associated with property donations in 2019. The net effect of the 2019 property donation was a loss of \$1.6 million.

² Represents non-routine charges or gains associated with acquisitions including the cost impact of purchase accounting inventory valuations.

ADJUSTED DILUTED EPS FROM CONTINUING OPERATIONS

Similar to our presentation of Adjusted EBITDA, we present Adjusted diluted earnings per share (EPS) 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:

	2020	2019	2018
Diluted Earnings Per Share			
Net earnings	\$ 4.39	\$ 4.63	\$ 3.85
Less: Discontinued operations loss	(0.02)	(0.04)	(0.02)
Diluted EPS from continuing operations	\$ 4.41	\$ 4.67	\$ 3.87
Items included in Adjusted EBITDA above	0.27	0.03	0.14
Debt refinancing costs	0.00	0.00	0.04
Adjusted diluted EPS - continuing operations	\$ 4.68	\$ 4.70	\$ 4.05

2021 PROJECTED EBITDA

The following reconciliation to the mid-point of the range of 2021 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>	2021 Projected¹
	Mid-point
Net earnings	\$ 680
Income tax expense	180
Interest expense, net of interest income	130
Discontinued operations, net of tax	0
Depreciation, depletion, accretion and amortization	400
Projected EBITDA	\$ 1,390

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

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:

<i>dollars in millions</i>	2020	2019	2018
Adjusted EBITDA	\$ 1,323.5	\$ 1,270.0	\$ 1,131.7
Average invested capital ¹			
Property, plant & equipment	\$ 4,374.0	\$ 4,281.3	\$ 4,095.4
Goodwill	3,170.1	3,165.7	3,150.3
Other intangible assets	1,104.0	1,084.1	1,095.2
Fixed and intangible assets	\$ 8,648.1	\$ 8,531.1	\$ 8,340.9
Current assets	\$ 1,845.7	\$ 1,224.3	\$ 1,125.9
Less: Cash and cash equivalents	698.9	93.5	68.3
Less: Current tax	18.5	12.6	0.0
Adjusted current assets	1,128.3	1,118.2	1,057.6
Current liabilities	833.6	599.3	626.2
Less: Current maturities of long-term debt	305.0	0.0	8.3
Less: Short-term debt	0.0	89.7	178.6
Adjusted current liabilities	528.6	509.6	439.3
Adjusted net working capital	\$ 599.7	\$ 608.6	\$ 618.3
Average invested capital	\$ 9,247.8	\$ 9,139.7	\$ 8,959.2
Return on invested capital	14.3%	13.9%	12.6%

¹ Average invested capital is based on a trailing 5-quarters.

LIQUIDITY AND FINANCIAL RESOURCES

Our primary sources of liquidity are cash provided by our operating activities and a substantial, committed bank line of credit. 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 2021, including:

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

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

In an effort to strengthen our liquidity position while navigating the COVID-19 pandemic, we took a number of proactive steps during 2020. In April 2020, we executed a \$750.0 million one-year delayed draw term loan. In May 2020, we issued \$750.0 million of 3.50% senior notes due 2030 to prefund: a) the \$250.0 million due June 2020, and b) the \$500.0 million due March 2021. In September 2020, we executed a new five-year unsecured bank line of credit of \$1,000.0 million and terminated our April 2020 \$750.0 million delayed draw term loan. As the impact of the COVID-19 pandemic on the economy and our operations evolves, we will continue to assess our liquidity sources and needs and take appropriate actions.

CASH

Included in our December 31, 2020 cash and cash equivalents and restricted cash balances of \$1,198.0 million is \$0.9 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>	2020	2019	2018
Net earnings	\$ 584.5	\$ 617.7	\$ 515.8
Depreciation, depletion, accretion and amortization (DDA&A)	396.8	374.6	346.2
Noncash operating lease expense	38.3	35.3	0.0
Contributions to pension plans	(8.8)	(8.9)	(109.6)
Deferred tax expense	62.0	76.0	64.6
Cost of debt purchase	0.0	0.0	6.9
Other operating cash flows, net ¹	(2.4)	(110.6)	8.9
Net cash provided by operating activities	\$ 1,070.4	\$ 984.1	\$ 832.8

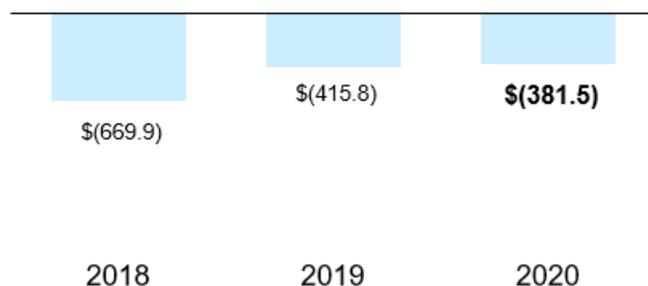
¹ Primarily reflects changes to working capital balances.

2020 VERSUS 2019 — Net cash provided by operating activities was \$1,070.4 million during 2020, an \$86.3 million increase compared to 2019. This increase primarily resulted from favorable changes in working capital balances compared to the prior year period.

Days sales outstanding, a measurement of the time it takes to collect receivables, were 44.9 days at December 31, 2020 compared to 48.5 days at December 31, 2019. Additionally, our over 90 day balance of \$15.5 million at December 31, 2020 was down 55% from \$34.1 million at December 31, 2019. All customer accounts are actively managed and no losses in excess of amounts reserved are currently expected; attention is being paid to the potential negative impact of the COVID-19 pandemic on our customers' ability to pay their amounts owed to us.

CASH FROM INVESTING ACTIVITIES

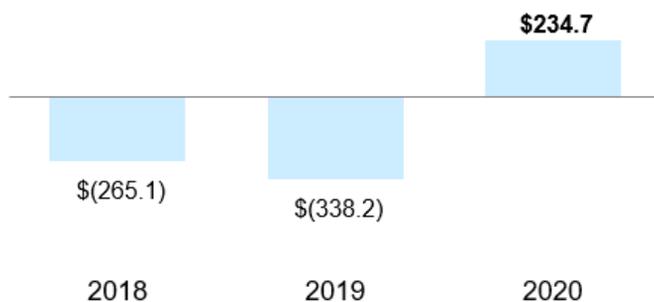
in millions



2020 VERSUS 2019 — Net cash used for investing activities was \$381.5 million during 2020, a \$34.3 million decrease compared to 2019. We invested \$362.2 million in our existing operations in 2020, a \$21.9 million decrease compared to 2019. Of this \$362.2 million, \$122.9 million was invested in internal growth projects to enhance our distribution capabilities, develop new production sites and enhance existing production facilities. Additionally, during 2020 we acquired businesses for \$43.2 million of cash consideration as compared to \$44.2 million of cash consideration for businesses in 2019 (see Note 19 “Acquisitions and Divestitures” in Item 8 “Financial Statements and Supplementary Data”).

CASH FROM FINANCING ACTIVITIES

in millions



2020 VERSUS 2019 — Net cash provided by financing activities in 2020 was \$234.7 million, compared to \$338.2 million of net cash used for financing activities in 2019. The 2020 activity includes: a) net cash proceeds of \$734.6 million for the issuance of new debt, b) cash paid to retire the \$250.0 million floating rate notes due 2020 and c) \$19.9 million of cash paid to settle interest rate derivatives. The 2019 results include a net \$133.0 million payment on our bank line of credit.

Additionally, capital returned to our shareholders increased by \$39.8 million via higher dividends of \$16.2 million (\$1.36 per share compared to \$1.24 per share) and higher share repurchases of \$23.5 million (214,338 shares @ \$121.92 per share compared to 18,600 shares @ \$139.90 per share).

DEBT

Certain debt measures as of December 31 are outlined below:

<i>dollars in millions</i>	<i>2020</i>	<i>2019</i>
Debt		
Current maturities of long-term debt	\$ 515.4	\$ 0.0
Short-term debt	0.0	0.0
Long-term debt	2,772.3	2,784.3
Total debt	\$ 3,287.7	\$ 2,784.3
Capital		
Total debt	\$ 3,287.7	\$ 2,784.3
Equity	6,027.3	5,621.9
Total capital	\$ 9,315.0	\$ 8,406.2
Total Debt as a Percentage of Total Capital	35.3%	33.1%
Weighted-average Effective Interest Rates		
Line of credit ¹	1.25%	1.25%
Term debt	4.10%	4.36%
Fixed versus Floating Interest Rate Debt		
Fixed-rate debt	85.1%	73.7%
Floating-rate debt	14.9%	26.3%

¹ Reflects the margin above LIBOR for LIBOR-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.

LINE OF CREDIT

In September 2020, we executed a new five-year unsecured line of credit of \$1,000.0 million, incurring \$4.6 million of transaction costs. Covenants, borrowing options, cost ranges and other details are described in Note 6 “Debt” in Item 8 “Financial Statements and Supplementary Data.” As of December 31, 2020, we were in compliance with the line of credit covenants and the credit margin for LIBOR borrowings was 1.25%, the credit margin for base rate borrowings was 0.25%, and the commitment fee for the unused portion was 0.15%.

In September 2020, we terminated our \$750.0 million 364-day delayed draw term loan executed in April 2020. During the second quarter, we had borrowed and repaid \$250.0 million leaving \$500.0 million available for future borrowings prior to its termination.

As of December 31, 2020, our available borrowing capacity under the line of credit was \$943.9 million. Utilization of the borrowing capacity was as follows:

- none was borrowed
- \$56.1 million was used to provide support for outstanding standby letters of credit

TERM DEBT

All of our \$3,357.9 million (face value) of term debt is unsecured. \$3,346.2 million of such debt is governed by three essentially identical indentures that contain customary investment-grade type covenants. The primary covenant in all three indentures limits the amount of secured debt we may incur without ratably securing such debt. As of December 31, 2020, we were in compliance with all term debt covenants.

In May 2020, we issued \$750.0 million of 3.50% senior notes due 2030 for total proceeds of \$741.4 million (net of discounts and transaction costs). \$250.0 million of the proceeds were used to retire the \$250.0 million floating rate notes due in June 2020, and the remainder of the proceeds, together with cash on hand, will be used to retire the \$500.0 million floating rate notes due in March 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 2020 were \$250.0 million in June — refinanced in May by issuing \$750.0 million of 3.50% senior notes due 2030. There were no significant scheduled debt payments during 2019.

As of December 31, 2020, maturities for the next four quarters and for the next five years are as follows (excluding any borrowings on the line of credit):

<i>2021</i>		<i>Debt</i>	
<i>in millions</i>	<i>Debt Maturities</i>	<i>in millions</i>	<i>Maturities</i>
First quarter	\$ 500.4	2021	\$ 515.4
Second quarter	0.0	2022	0.5
Third quarter	9.0	2023	0.5
Fourth quarter	6.0	2024	0.5
		2025	400.5

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, 2020 are as follows:

	<i>Rating/Outlook</i>	<i>Date</i>	<i>Description</i>
Senior Unsecured Term Debt			
Fitch ¹	BBB-/stable	5/7/2020	outlook revised
Moody's	Baa2/stable	11/9/2020	rating revised
Standard & Poor's	BBB+/stable	2/28/2020	rating revised

¹ On February 22, 2021, Fitch upgraded our rating to BBB/stable.

LIBOR TRANSITION

The London Interbank Offered Rate (LIBOR) is an indicative measure of the average rate at which major global banks could borrow from one another and is used extensively globally as a reference rate for financial contracts (e.g., corporate bonds and loans) and commercial contracts (e.g., real estate leases). The United Kingdom’s Financial Conduct Authority, which regulates LIBOR, announced in July 2017 that it intends to cease requiring banks to submit LIBOR rates after 2021.

The expected discontinuation of LIBOR has led to the formation of working groups in the U.S. and elsewhere to recommend alternative reference rates. The U.S. working group is the Alternative Reference Rates Committee (ARRC) convened by the Federal Reserve Board and the Federal Reserve Bank of New York. The ARRC has selected the Secured Overnight Financing Rate (SOFR) as the preferred alternative to LIBOR.

As of December 31, 2020, we had two material debt instruments with LIBOR as a reference rate: 1) \$500.0 million floating-rate notes due March 2021, and 2) \$1,000.0 million line of credit (none outstanding at December 31, 2020) due September 2025. At this time, we cannot predict the future impact of a departure from LIBOR as a reference rate; however, if future rates based upon the successor reference rate (or a new method of calculating LIBOR) are higher than LIBOR rates as currently determined, our interest expense would increase.

EQUITY

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

<i>in thousands</i>	<i>2020</i>	<i>2019</i>	<i>2018</i>
Common stock shares at January 1, issued and outstanding	132,371	131,762	132,324
Common Stock Issuances			
Share-based compensation plans	359	628	630
Common Stock Purchases			
Purchased and retired	(214)	(19)	(1,192)
Common stock shares at December 31, issued and outstanding	132,516	132,371	131,762

As of December 31, 2020, 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 thousands, except average cost</i>	<i>2020</i>	<i>2019</i>	<i>2018</i>
Shares Purchased and Retired			
Number	214	19	1,192
Total purchase price	\$ 26,132	\$ 2,602	\$ 133,983
Average cost per share	\$ 121.92	\$ 139.90	\$ 112.41

There were no shares held in treasury as of December 31, 2020, 2019 and 2018.

OFF-BALANCE SHEET ARRANGEMENTS

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

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."

CONTRACTUAL OBLIGATIONS

We expect core capital spending (excluding growth capital) of \$325 million during 2021. Excluding future cash requirements for capital expenditures and immaterial or contingent contracts, our obligations to make future contractual payments as of December 31, 2020 are summarized in the table below:

in millions	Note Reference	Payments Due by Year				Total
		2021	2022-2023	2024-2025	Thereafter	
Contractual Obligations						
Bank line of credit						
Principal payments	Note 6	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0
Interest payments and fees ¹	Note 6	2.3	4.5	4.3	0.0	11.1
Term debt						
Principal payments	Note 6	515.4	1.0	400.9	2,440.6	3,357.9
Interest payments	Note 6	123.9	244.5	235.5	1,417.1	2,021.0
Operating leases ²	Note 7	44.2	61.2	42.0	169.4	316.8
Finance leases ²	Note 7	2.0	2.9	1.0	0.0	5.9
Mineral royalties	Note 12	27.2	43.5	27.7	167.2	265.6
Unconditional purchase obligations						
Capital	Note 12	6.9	0.0	0.0	0.0	6.9
Noncapital ³	Note 12	16.0	15.1	4.1	11.0	46.2
Benefit plans ⁴	Note 10	8.1	30.4	51.1	71.6	161.2
Total contractual obligations ^{5,6}		\$ 746.0	\$ 403.1	\$ 766.6	\$ 4,276.9	\$ 6,192.6

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, 2020, and borrowing costs reflect a rising LIBOR.

² The above table 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 2026-2030. 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 The above table excludes discounted asset retirement obligations in the amount of \$283.2 million at December 31, 2020, the majority of which have an estimated settlement date beyond 2025 (see Note 17 "Asset Retirement Obligations" in Item 8 "Financial Statements and Supplementary Data").

⁶ The above table excludes liabilities for unrecognized tax benefits in the amount of \$6.8 million at December 31, 2020, as we cannot make a reasonably reliable estimate of the amount and period of related future payment of these uncertain tax positions (for more details, see Note 9 "Income Taxes" 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, 2020, goodwill represents 27% 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 9 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 2018 through 2020 indicated that the fair values of all reporting units with goodwill substantially exceeded (in excess of 100%) their carrying values.

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, 2020, net property, plant & equipment represents 38% of total assets, while net other intangible assets represents 10% 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 2020, 2019 and 2018, we recorded no material 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 \$467.1 million at December 31, 2020, representing a 12% increase from December 31, 2019. Of the total \$467.1 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 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) and the expected return on plan assets. Due to plan changes made in 2012 and 2013, annual pay increases and the per capita cost of healthcare benefits 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. 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.
- **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. For the year ended December 31, 2020, the expected return on plan assets was 5.75% for the period January 1, 2020 – November 30, 2020 and 5.25% for the period December 1, 2020 – December 31, 2020 (5.75% for 2019). The plans were remeasured at November 30, 2020 to reflect settlement accounting for the CMG Hourly Pension Plan and the Vulcan Materials Company (VMC) Pension Plan (the Chemicals and Salaried Pension Plans were merged to form the VMC Pension Plan effective November 30, 2020).

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	\$ (58.8)	\$ (0.9)	\$ 64.8	\$ 0.8
Other postretirement benefits	(1.2)	(0.0)	1.3	0.1
Expected return on plan assets	not applicable	(4.5)	not applicable	4.5

As of the December 31, 2020 measurement date, the fair value of our pension plan assets decreased from \$949.0 million for the prior year-end to \$944.3 million due to voluntary lump sum settlement distributions to certain fully vested plan participants partially offset by investment returns. 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, 2020 measurement date, the PBO of our pension plans decreased from \$1,090.9 million to \$1,059.5 million. This decrease was primarily due to the large amount of benefit distributions made from the plans as a result of the lump sum settlements offered to certain fully vested plan participants. The PBO of our postretirement plans decreased from \$41.2 million to \$33.9 million. This decrease was primarily due to demographic assumption changes.

During 2021, we expect to recognize net pension income of \$10.8 million and net postretirement income of \$1.9 million compared to expense of \$21.6 million (which reflects a settlement charge of \$22.7 million) and income of \$2.2 million, respectively, in 2020. The decrease in pension expense (excluding the settlement charge) is mainly due to greater than expected asset returns.

We do not anticipate that contributions to the funded pension plans will be required during 2021, 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, 2020, 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 \$5.9 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 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 or emerging legislation.

Generally, we are not subject to significant changes in income taxes by any taxing jurisdiction for the years before 2017. 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.

At December 31, 2020, the estimated fair value of our long-term debt including current maturities was \$3,959.0 million compared to a face value of \$3,357.9 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 \$414.9 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, 2020 and 2019, the related consolidated statements of comprehensive income, equity, and cash flows, for each of the three years in the period ended December 31, 2020, 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, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020, 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, 2020, 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 25, 2021 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 Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates 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 matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

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 reached mechanical completion during 2020. 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 be material in a given period to the Company's results of operations or cash flows.

Evaluating the estimate of the liability and the extent and sufficiency of related disclosures is subjective in nature and as such requires significant audit effort, involves especially subjective auditing judgements, and requires the use 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 and NHOU (collectively the Hewitt Landfill Environmental Matter) include the following, among others:

- We tested the 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 our audit.

/s/ DELOITTE & TOUCHE LLP
Birmingham, Alabama
February 25, 2021

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

VULCAN MATERIALS COMPANY AND SUBSIDIARY COMPANIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	2020	2019	2018
<i>For the years ended December 31</i>			
<i>in thousands, except per share data</i>			
Total revenues	\$ 4,856,826	\$ 4,929,103	\$ 4,382,869
Cost of revenues	3,575,345	3,673,202	3,281,924
Gross profit	1,281,481	1,255,901	1,100,945
Selling, administrative and general expenses	359,772	370,548	333,371
Gain on sale of property, plant & equipment and businesses	3,997	23,752	14,944
Other operating expense, net	(29,975)	(31,647)	(34,805)
Operating earnings	895,731	877,458	747,713
Other nonoperating income (expense), net	(17,540)	9,243	13,000
Interest income	1,567	1,155	554
Interest expense	135,960	130,155	137,977
Earnings from continuing operations before income taxes	743,798	757,701	623,290
Income tax expense			
Current	93,948	58,941	40,516
Deferred	61,855	76,257	64,933
Total income tax expense	155,803	135,198	105,449
Earnings from continuing operations	587,995	622,503	517,841
Loss on discontinued operations, net of tax	(3,515)	(4,841)	(2,036)
Net earnings	\$ 584,480	\$ 617,662	\$ 515,805
Other comprehensive income (loss), net of tax			
Deferred gain (loss) on interest rate derivative	(14,679)	0	2,496
Amortization of prior interest rate derivative loss	1,689	227	226
Adjustment for funded status of benefit plans	6,366	(26,892)	(207)
Amortization of actuarial loss and prior service cost for benefit plans	23,057	1,142	4,365
Other comprehensive income (loss)	16,433	(25,523)	6,880
Comprehensive income	\$ 600,913	\$ 592,139	\$ 522,685
Basic earnings (loss) per share			
Continuing operations	\$ 4.44	\$ 4.71	\$ 3.91
Discontinued operations	(0.03)	(0.04)	(0.01)
Net earnings	\$ 4.41	\$ 4.67	\$ 3.90
Diluted earnings (loss) per share			
Continuing operations	\$ 4.41	\$ 4.67	\$ 3.87
Discontinued operations	(0.02)	(0.04)	(0.02)
Net earnings	\$ 4.39	\$ 4.63	\$ 3.85
Weighted-average common shares outstanding			
Basic	132,578	132,300	132,393
Assuming dilution	133,245	133,385	133,926

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

VULCAN MATERIALS COMPANY AND SUBSIDIARY COMPANIES
CONSOLIDATED BALANCE SHEETS

	2020	2019
<i>As of December 31</i>		
<i>in thousands</i>		
Assets		
Cash and cash equivalents	\$ 1,197,068	\$ 271,589
Restricted cash	945	2,917
Accounts and notes receivable		
Customers, less allowance for doubtful accounts		
2020 — \$2,551; 2019 — \$3,125	512,945	532,012
Other	43,352	38,104
Inventories	448,585	458,308
Other current assets	74,270	76,396
Total current assets	2,277,165	1,379,326
Investments and long-term receivables	34,301	60,709
Property, plant & equipment, net	4,425,999	4,316,038
Operating lease right-of-use assets, net	423,128	408,189
Goodwill	3,172,112	3,167,061
Other intangible assets, net	1,123,544	1,091,475
Other noncurrent assets	230,656	225,995
Total assets	\$ 11,686,905	\$ 10,648,793
Liabilities		
Current maturities of long-term debt	515,435	25
Trade payables and accruals	273,080	265,159
Accrued salaries, wages and management incentives	91,646	97,228
Accrued interest	19,943	19,167
Other current liabilities	147,779	153,984
Total current liabilities	1,047,883	535,563
Long-term debt	2,772,240	2,784,315
Deferred income taxes, net	706,050	633,039
Deferred management incentive and other compensation	26,787	22,856
Pension benefits	107,195	142,363
Other postretirement benefits	29,412	35,848
Asset retirement obligations	283,163	210,323
Deferred revenue	174,045	179,880
Operating lease liabilities	399,582	388,042
Other noncurrent liabilities	113,218	94,707
Total liabilities	\$ 5,659,575	\$ 5,026,936
Other commitments and contingencies (Note 12)		
Equity		
Common stock, \$1 par value, Authorized 480,000 shares, Outstanding 132,516 and 132,371 shares, respectively	132,516	132,371
Capital in excess of par value	2,802,012	2,791,353
Retained earnings	3,274,107	2,895,871
Accumulated other comprehensive loss	(181,305)	(197,738)
Total equity	6,027,330	5,621,857
Total liabilities and equity	\$ 11,686,905	\$ 10,648,793

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

	2020	2019	2018
<i>For the years ended December 31</i>			
<i>in thousands</i>			
Operating Activities			
Net earnings	\$ 584,480	\$ 617,662	\$ 515,805
Adjustments to reconcile net earnings to net cash provided by operating activities			
Depreciation, depletion, accretion and amortization	396,806	374,596	346,246
Noncash operating lease expense	38,272	35,344	0
Net gain on sale of property, plant & equipment and businesses	(3,997)	(23,752)	(14,944)
Contributions to pension plans	(8,819)	(8,882)	(109,631)
Share-based compensation expense	32,991	31,843	25,215
Deferred tax expense	62,018	76,011	64,639
Cost of debt purchase	0	0	6,922
(Increase) decrease in assets excluding the initial effects of business acquisitions and dispositions			
Accounts and notes receivable	13,413	(29,734)	63,230
Inventories	9,801	(28,273)	(34,976)
Prepaid expenses	2,585	5,990	(2,167)
Other assets	(14,430)	(61,195)	(58,489)
Increase (decrease) in liabilities excluding the initial effects of business acquisitions and dispositions			
Accrued interest and income taxes	775	(4,644)	12,148
Trade payables and other accruals	(6,942)	21,788	40,181
Other noncurrent liabilities	(44,912)	(51,150)	(26,901)
Other, net	8,318	28,518	5,499
Net cash provided by operating activities	\$ 1,070,359	\$ 984,122	\$ 832,777
Investing Activities			
Purchases of property, plant & equipment	(362,194)	(384,094)	(469,088)
Proceeds from sale of property, plant & equipment	11,461	22,661	22,210
Proceeds from sale of businesses	968	1,744	11,256
Payment for businesses acquired, net of acquired cash	(43,223)	(44,151)	(221,419)
Other, net	11,474	(11,997)	(12,850)
Net cash used for investing activities	\$ (381,514)	\$ (415,837)	\$ (669,891)
Financing Activities			
Proceeds from short-term debt	0	366,900	739,900
Payment of short-term debt	0	(499,900)	(606,900)
Payment of current maturities and long-term debt	(250,025)	(23)	(892,055)
Proceeds from issuance of long-term debt	750,000	0	850,000
Debt issuance and exchange costs	(15,394)	0	(45,513)
Settlements of interest rate derivatives	(19,863)	0	3,378
Purchases of common stock	(26,132)	(2,602)	(133,983)
Dividends paid	(180,216)	(163,973)	(148,109)
Share-based compensation, shares withheld for taxes	(22,144)	(38,522)	(31,846)
Other, net	(1,564)	(63)	0
Net cash provided by (used for) financing activities	\$ 234,662	\$ (338,183)	\$ (265,128)
Net increase (decrease) in cash and cash equivalents and restricted cash	923,507	230,102	(102,242)
Cash and cash equivalents and restricted cash at beginning of year	274,506	44,404	146,646
Cash and cash equivalents and restricted cash at end of year	\$ 1,198,013	\$ 274,506	\$ 44,404

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 thousands</i>	<i>Common Stock</i>		<i>Capital in Excess of Par Value</i>	<i>Retained Earnings</i>	<i>Accumulated Other Comprehensive Income (Loss)</i>	<i>Total</i>
	<i>Shares</i>	<i>Amount</i>				
Balances at December 31, 2017	132,324	\$ 132,324	\$ 2,805,587	\$ 2,180,448	\$ (149,466)	\$ 4,968,893
Released stranded tax effects ASU 2018-02	0	0	0	29,629	(29,629)	0
Balances at January 1, 2018, due to reclassification	132,324	\$ 132,324	\$ 2,805,587	\$ 2,210,077	\$ (179,095)	\$ 4,968,893
Net earnings	0	0	0	515,805	0	515,805
Share-based compensation plans, net of shares withheld for taxes	630	630	(32,428)	0	0	(31,798)
Purchase and retirement of common stock	(1,192)	(1,192)	0	(132,791)	0	(133,983)
Share-based compensation expense	0	0	25,215	0	0	25,215
Cash dividends on common stock	0	0	0	(148,109)	0	(148,109)
Other comprehensive income	0	0	0	0	6,880	6,880
Other	0	0	112	(112)	0	0
Balances at December 31, 2018	131,762	\$ 131,762	\$ 2,798,486	\$ 2,444,870	\$ (172,215)	\$ 5,202,903
Net earnings	0	0	0	617,662	0	617,662
Share-based compensation plans, net of shares withheld for taxes	628	628	(39,080)	0	0	(38,452)
Purchase and retirement of common stock	(19)	(19)	0	(2,583)	0	(2,602)
Share-based compensation expense	0	0	31,843	0	0	31,843
Cash dividends on common stock	0	0	0	(163,973)	0	(163,973)
Other comprehensive loss	0	0	0	0	(25,523)	(25,523)
Other	0	0	104	(105)	0	(1)
Balances at December 31, 2019	132,371	\$ 132,371	\$ 2,791,353	\$ 2,895,871	\$ (197,738)	\$ 5,621,857
Net earnings	0	0	0	584,480	0	584,480
Share-based compensation plans, net of shares withheld for taxes	359	359	(22,442)	0	0	(22,083)
Purchase and retirement of common stock	(214)	(214)	0	(25,918)	0	(26,132)
Share-based compensation expense	0	0	32,991	0	0	32,991
Cash dividends on common stock	0	0	0	(180,216)	0	(180,216)
Other comprehensive income	0	0	0	0	16,433	16,433
Other	0	0	110	(110)	0	0
Balances at December 31, 2020	132,516	\$ 132,516	\$ 2,802,012	\$ 3,274,107	\$ (181,305)	\$ 6,027,330

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) and a major producer of asphalt mix and ready-mixed concrete.

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 markets in twenty states, Washington D.C., and the local markets surrounding our operations in Mexico. 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, Tennessee, Texas, Virginia and Washington D.C. markets.

While we continue to operate as an essential business, the COVID-19 pandemic has impacted our industry and the economy, and it may have far-reaching impacts on many aspects of our operations, directly and indirectly, including with respect to its impacts on customer behaviors, business and manufacturing operations, our employees, and the market generally.

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 thousands</i>	<i>2020</i>	<i>2019</i>	<i>2018</i>
Discontinued Operations			
Pretax loss	\$ (4,752)	\$ (6,541)	\$ (2,748)
Income tax benefit	1,237	1,700	712
Loss on discontinued operations, net of tax	\$ (3,515)	\$ (4,841)	\$ (2,036)

Our discontinued operations include charges/credits 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). 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.

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 and changes in circumstances arising after December 31, 2020, including those resulting from the impacts of COVID-19, will be reflected in management's estimates for future periods.

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. 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 generally consists of cash proceeds from the sale of property held in escrow for the acquisition of replacement property under like-kind exchange agreements and cash reserved by other contractual agreements (such as asset purchase agreements) for a specified purpose and therefore not available for use for other purposes. 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 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 doubtful accounts 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 for the years ended December 31 was as follows: 2020 — \$1,091,000, 2019 — \$1,426,000 and 2018 — \$251,000. Write-offs of accounts receivables for the years ended December 31 were as follows: 2020 — \$2,046,000, 2019 — \$809,000 and 2018 — \$1,291,000.

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 (including finance leases) are carried at cost less accumulated depreciation, depletion and amortization.

Capitalized software costs of \$2,110,000 and \$2,976,000 are reflected in net property, plant & equipment as of December 31, 2020 and 2019, respectively. We capitalized software costs for the years ended December 31 as follows: 2020 — \$1,116,000, 2019 — \$1,506,000 and 2018 — \$2,213,000.

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 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 thousands</i>	2020	2019	2018
Depreciation, Depletion, Accretion and Amortization			
Depreciation	\$ 315,136	\$ 300,613	\$ 276,814
Depletion	21,011	22,421	23,260
Accretion	12,432	10,992	10,776
Amortization of finance leases	1,616	29	472
Amortization of intangibles	46,611	40,541	34,924
Total	\$ 396,806	\$ 374,596	\$ 346,246

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 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 thousands</i>	<i>Level 1 Fair Value</i>	
	2020	2019
Fair Value Recurring		
Rabbi Trust		
Mutual funds	\$ 28,058	\$ 22,883
Total	\$ 28,058	\$ 22,883

<i>in thousands</i>	<i>Level 2 Fair Value</i>	
	2020	2019
Fair Value Recurring		
Rabbi Trust		
Money market mutual fund	\$ 837	\$ 1,340
Total	\$ 837	\$ 1,340

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 (short-term, highly liquid assets in commercial paper, short-term bonds and certificates of deposit).

Net gains (losses) of the Rabbi Trusts' investments were \$4,469,000, \$3,993,000 and \$(2,741,000) for the years ended December 31, 2020, 2019 and 2018, respectively. The portions of the net gains (losses) related to investments still held by the Rabbi Trusts at December 31, 2020, 2019 and 2018 were \$4,140,000, \$3,729,000 and \$(4,386,000), respectively.

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.

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, 2020, goodwill totaled \$3,172,112,000 as compared to \$3,167,061,000 at December 31, 2019. Goodwill represents 27% of total assets at December 31, 2020 compared to 30% at December 31, 2019.

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 9 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.

The results of the annual impairment tests performed as of November 1, 2020, 2019 and 2018 indicated that the fair values of all reporting units with goodwill substantially exceeded their carrying values. Accordingly, there were no charges for goodwill impairment in the years ended December 31, 2020, 2019 or 2018.

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, 2020, net property, plant & equipment represents 38% of total assets, while net other intangible assets represents 10% of total assets. During 2020, 2019 and 2018, we recorded no material 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 \$90,432,000 in 2020, \$86,090,000 in 2019 and \$78,911,000 in 2018.

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 \$92,880,000 as of December 31, 2020 and \$92,759,000 as of December 31, 2019.

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 \$283,163,000 as of December 31, 2020 and \$210,323,000 as of December 31, 2019. 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, 2020, 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 \$5,905,000 — 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 \$2,000,000 per occurrence and automotive and general/product liability up to \$10,000,000 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 thousands</i>	<i>2020</i>	<i>2019</i>
Self-insurance Program		
Self-insured liabilities (undiscounted)	\$ 75,570	\$ 69,069
Insured liabilities (undiscounted)	3,661	6,431
Discount rate	0.30%	1.63%
Amounts Recognized in Consolidated Balance Sheets		
Other accounts and notes receivable	\$ 595	\$ 0
Investments and long-term receivables	3,585	5,931
Other current liabilities	(20,707)	(19,830)
Other noncurrent liabilities	(57,608)	(51,360)
Net liabilities (discounted)	\$ (74,135)	\$ (65,259)

Estimated payments (undiscounted and excluding the impact of related receivables) under our self-insurance program for the five years subsequent to December 31, 2020 are as follows:

<i>in thousands</i>	
Estimated Payments under Self-insurance Program	
2021	\$ 22,436
2022	16,453
2023	11,492
2024	6,857
2025	3,751

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. 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, 2020 related to share-based awards granted to employees under our long-term incentive plans is presented below:

<i>dollars in thousands</i>	<i>Unrecognized Compensation Expense</i>	<i>Expected Weighted-average Recognition (Years)</i>
Share-based Compensation		
SOSARs ¹	\$ 1,605	1.3
Performance shares	10,622	1.7
Restricted shares	8,362	1.7
Total/weighted-average	\$ 20,589	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 thousands</i>	2020	2019	2018
Employee Share-based Compensation Awards			
Pretax compensation expense	\$ 31,419	\$ 30,067	\$ 23,250
Income tax benefits	4,954	7,682	5,940

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. Net excess tax benefits were recorded as reductions to our income tax expense and reflected as operating cash flows, as follows (combined federal and state): 2020 — \$8,368,000; 2019 — \$21,020,000 and 2018 — \$20,137,000.

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) and the expected return on plan assets. Due to plan changes made in 2012 and 2013, annual pay increases and the per capita cost of healthcare benefits 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. See Note 10 for the discount rates used for PBO, service cost, and interest cost calculations.
- **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. For the year ended December 31, 2020, the expected return on plan assets was 5.75% for the period January 1, 2020 – November 30, 2020 and 5.25% for the period December 1, 2020 – December 31, 2020 (5.75% for 2019). The plans were remeasured at November 30, 2020 to reflect settlement accounting (due to a voluntary lump-sum settlement offer to certain fully vested plan participants) for the CMG Hourly Pension Plan and the Vulcan Materials Company (VMC) Pension Plan (the Chemicals and Salaried Pension Plans were merged to form the VMC Pension Plan effective November 30, 2020).

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 Condensed Consolidated Statements of Comprehensive Income.

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

INCOME TAXES

In response to the COVID-19 pandemic, the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) was signed into law in March 2020. The CARES Act provides numerous tax relief provisions and stimulus measures. A temporary favorable change to the prior year and current year limitations on interest deductions and a temporary suspension of certain payment requirements for the employer portion of Social Security taxes are the relief provisions that are expected to provide us the greatest benefit. In the first quarter of 2020, an expected cash tax benefit of \$13,301,000 was recorded to account for the favorable change to the prior year limitation on interest deductions.

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 2017. 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 thousands</i>	2020	2019	2018
Weighted-average common shares outstanding	132,578	132,300	132,393
Dilutive effect of			
SOSARs	307	611	963
Other stock compensation plans	360	474	570
Weighted-average common shares outstanding, assuming dilution	133,245	133,385	133,926

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 thousands</i>	2020	2019	2018
Antidilutive common stock equivalents	101	105	162

RECLASSIFICATIONS

Certain items previously reported in specific financial statement captions have been reclassified to conform to the 2020 presentation.

NEW ACCOUNTING STANDARDS

ACCOUNTING STANDARDS RECENTLY ADOPTED

DEFINED BENEFIT PLANS During the fourth quarter of 2020, we adopted Accounting Standards Update (ASU) 2018-14, "Changes to the Disclosure Requirements for Defined Benefit Plans." This ASU added, removed and clarified the disclosure requirements for employers that sponsor defined benefit pension and other postretirement benefit plans. As a result of this update, we modified our annual disclosure regarding our benefit plans as reflected in Note 10.

CREDIT LOSSES During the first quarter of 2020, we adopted ASU 2016-13, "Measurement of Credit Losses on Financial Instruments" on a retrospective basis. This ASU amended prior guidance on the impairment of financial instruments. The new guidance estimates credit losses based on expected losses, modifies the impairment model for available-for-sale debt securities and provides for a simplified accounting model for purchased financial assets with credit deterioration. The adoption of this standard did not materially impact our consolidated financial statements.

LIBOR TRANSITION In March 2020, the Financial Accounting Standards Board (FASB) issued ASU 2020-04, "Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting," which provided optional expedients and exceptions for applying GAAP to contract modifications and hedging relationships that reference LIBOR or another reference rate expected to be discontinued. The ASU was effective immediately for all entities and applies through December 31, 2022. For additional information, see our LIBOR transition disclosure in Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations" under "Liquidity and Financial Resources - Debt." We continue to evaluate the effect that discontinuance of LIBOR will have on our contracts.

ACCOUNTING STANDARDS PENDING ADOPTION

CONVERTIBLE INSTRUMENTS In August 2020, the FASB issued ASU 2020-06, "Accounting for Convertible Instruments and Contracts in an Entity's Own Equity," which reduces the number of models used to account for convertible instruments and modifies the diluted earnings per share calculations for convertible instruments. This ASU also amends the accounting for certain contracts in an entity's own equity that are currently accounted for as derivatives. The new standard is effective as of January 1, 2022 with early adoption permitted, but no earlier than January 1, 2021. We plan to early adopt this standard as of January 1, 2021. We do not currently have any instruments or contracts that will be impacted by the new standard.

INCOME TAXES In December 2019, the FASB issued ASU 2019-12, "Simplifying the Accounting for Income Taxes," which adds new guidance to simplify the accounting for income taxes and changes the accounting for certain income tax transactions. The new standard is effective as of January 1, 2021. We do not expect this standard to have a material impact on our consolidated financial statements.

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 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: 2020 — \$214,343,000, 2019 — \$234,099,000 and 2018 — \$198,897,000.

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, 2020, 2019 and 2018 are disaggregated as follows:

<i>in thousands</i>	For the Year Ended December 31, 2020				
	<i>Aggregates</i>	<i>Asphalt</i>	<i>Concrete</i>	<i>Calcium</i>	<i>Total</i>
Total Revenues by Geographic Market ¹					
East	\$ 1,198,169	\$ 142,184	\$ 263,661	\$ 0	\$ 1,604,014
Gulf Coast	2,165,155	178,501	71,149	7,720	2,422,525
West	580,962	471,920	48,807	0	1,101,689
Segment sales	\$ 3,944,286	\$ 792,605	\$ 383,617	\$ 7,720	\$ 5,128,228
Intersegment sales	(271,402)	0	0	0	(271,402)
Total revenues	\$ 3,672,884	\$ 792,605	\$ 383,617	\$ 7,720	\$ 4,856,826

<i>in thousands</i>	For the Year Ended December 31, 2019				
	<i>Aggregates</i>	<i>Asphalt</i>	<i>Concrete</i>	<i>Calcium</i>	<i>Total</i>
Total Revenues by Geographic Market ¹					
East	\$ 1,254,748	\$ 166,552	\$ 261,249	\$ 0	\$ 1,682,549
Gulf Coast	2,117,526	194,367	66,628	8,191	2,386,712
West	618,001	494,902	67,750	0	1,180,653
Segment sales	\$ 3,990,275	\$ 855,821	\$ 395,627	\$ 8,191	\$ 5,249,914
Intersegment sales	(320,811)	0	0	0	(320,811)
Total revenues	\$ 3,669,464	\$ 855,821	\$ 395,627	\$ 8,191	\$ 4,929,103

<i>in thousands</i>	For the Year Ended December 31, 2018				
	<i>Aggregates</i>	<i>Asphalt</i>	<i>Concrete</i>	<i>Calcium</i>	<i>Total</i>
Total Revenues by Geographic Market ¹					
East	\$ 1,109,489	\$ 156,591	\$ 257,250	\$ 0	\$ 1,523,330
Gulf Coast	1,821,853	131,745	71,739	8,110	2,033,447
West	582,307	444,846	73,010	0	1,100,163
Segment sales	\$ 3,513,649	\$ 733,182	\$ 401,999	\$ 8,110	\$ 4,656,940
Intersegment sales	(274,071)	0	0	0	(274,071)
Total revenues	\$ 3,239,578	\$ 733,182	\$ 401,999	\$ 8,110	\$ 4,382,869

¹ The geographic markets are defined by states as follows:

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

Gulf Coast market — Alabama, Florida, Georgia, Louisiana, Mexico, Mississippi, Oklahoma, South Carolina and Texas

West market — Arizona, California and New Mexico

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 cost related to freight & delivery are included in cost of revenues.

Freight & delivery revenues are as follows:

<i>in thousands</i>	2020	2019	2018
Freight & Delivery Revenues			
Total revenues	\$ 4,856,826	\$ 4,929,103	\$ 4,382,869
Freight & delivery revenues ¹	(738,482)	(747,862)	(641,815)
Total revenues excluding freight & delivery	\$ 4,118,344	\$ 4,181,241	\$ 3,741,054

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. 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 \$226,926,000. 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 25 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.

Reconciliation of the VPP deferred revenue balances (current and noncurrent) is as follows:

<i>in thousands</i>	2020	2019	2018
Deferred Revenue			
Balance at beginning of year	\$ 185,339	\$ 192,783	\$ 199,556
Revenue recognized from deferred revenue	(7,377)	(7,444)	(6,773)
Balance at end of year	\$ 177,962	\$ 185,339	\$ 192,783

Based on expected sales from the specified quarries, we expect to recognize \$7,500,000 of VPP deferred revenue as income in 2021 (reflected in other current liabilities in our December 31, 2020 Consolidated Balance Sheet).

NOTE 3: INVENTORIES

Inventories at December 31 are as follows:

<i>in thousands</i>	2020	2019
Inventories		
Finished products ¹	\$ 378,389	\$ 391,666
Raw materials	33,780	31,318
Products in process	4,555	5,604
Operating supplies and other	31,861	29,720
Total	\$ 448,585	\$ 458,308

¹ Includes inventories encumbered by volumetric production payments (see Note 2), as follows: December 31, 2020 — \$2,416 thousand and December 31, 2019 — \$2,861 thousand.

In addition to the inventory balances presented above, as of December 31, 2020 and December 31, 2019, we have \$10,978,000 and \$7,557,000, 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 \$307,656,000 at December 31, 2020 and \$309,429,000 at December 31, 2019. During 2020, 2019 and 2018, 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 2020 results was to decrease cost of revenues by \$867,000 and increase net earnings by \$646,000. The effect of the LIFO liquidation on 2019 results was to decrease cost of revenues by \$1,147,000 and increase net earnings by \$854,000. The effect of the LIFO liquidation on 2018 results was to increase cost of revenues by \$132,000 and decrease net earnings by \$99,000.

Estimated current cost exceeded LIFO cost at December 31, 2020 and 2019 by \$192,974,000 and \$183,181,000, 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 \$7,292,000 in 2020, an increase of \$5,462,000 in 2019 and an increase of \$5,223,000 in 2018.

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 thousands</i>	2020	2019
Property, Plant & Equipment		
Land and land improvements ¹	\$ 3,013,327	\$ 2,920,963
Buildings	145,418	141,898
Machinery and equipment	5,517,897	5,362,279
Finance leases (see Note 7)	7,796	1,677
Deferred asset retirement costs (see Note 17)	240,743	167,484
Construction in progress	176,905	154,917
Total, gross	\$ 9,102,086	\$ 8,749,218
Less allowances for depreciation, depletion and amortization	4,676,087	4,433,180
Total, net	\$ 4,425,999	\$ 4,316,038

¹ Includes depletable land as follows: December 31, 2020 — \$1,712,059 thousand and December 31, 2019 — \$1,667,642 thousand.

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 thousands</i>	2020	2019	2018
Capitalized interest cost	\$ 3,487	\$ 3,896	\$ 3,674
Total interest cost incurred before recognition of the capitalized amount	139,447	134,051	141,651

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, 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.

In February 2020, we entered into interest rate locks of a future debt issuance to hedge the risk of higher interest rates. These interest rate locks were designated as cash flow hedges. Consistent with their terms, we settled the interest rate locks in March 2020 for a cash payment of \$19,863,000. Given that the related debt issuance at the end of the first quarter: a) was not executed, b) remained probable in the near term and c) had uncertain timing, 1/20th of the hedge was deemed ineffective and \$993,000 of the settlement was recorded to interest expense in the first quarter. The remainder of the settlement was deferred and recorded in AOCI. In May 2020, we issued the related debt in the form of \$750,000,000 of 3.50% 10-year notes. The deferred hedge settlement amount in AOCI is amortized to interest expense over the term of the related debt.

In 2007 and 2018, 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 interest rate hedges is deferred (recorded in 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 thousands</i>	<i>Location on Statement</i>	2020	2019	2018
Interest Rate Hedges				
Loss reclassified from AOCI (effective portion)	Interest expense	\$ (2,286)	\$ (307)	\$ (306)

For the 12-month period ending December 31, 2021, we estimate that \$1,959,000 of the \$23,943,000 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 thousands</i>	<i>Effective Interest Rates</i>	2020	2019
Short-term Debt			
Bank line of credit expires 2025 ¹		\$ 0	\$ 0
Total short-term debt		\$ 0	\$ 0
Long-term Debt			
Bank line of credit expires 2025 ¹		\$ 0	\$ 0
Floating-rate notes due 2020		0	250,000
Floating-rate notes due 2021	1.11%	500,000	500,000
8.85% notes due 2021	8.88%	6,000	6,000
4.50% notes due 2025	4.65%	400,000	400,000
3.90% notes due 2027	4.00%	400,000	400,000
3.50% notes due 2030	3.94%	750,000	0
7.15% notes due 2037	8.05%	129,239	129,239
4.50% notes due 2047	4.59%	700,000	700,000
4.70% notes due 2048	5.42%	460,949	460,949
Other notes	0.77%	11,711	185
Total long-term debt - face value		\$ 3,357,899	\$ 2,846,373
Unamortized discounts and debt issuance costs		(70,224)	(62,033)
Total long-term debt - book value		\$ 3,287,675	\$ 2,784,340
Less current maturities		515,435	25
Total long-term debt - reported value		\$ 2,772,240	\$ 2,784,315
Estimated fair value of long-term debt		\$ 3,443,225	\$ 3,073,693

¹ Borrowings on the bank line of credit 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 \$7,203,000 and \$4,983,000, respectively, of net interest expense for these items for 2020 and 2019.

LINE OF CREDIT

In September 2020, we executed a new five-year unsecured line of credit of \$1,000,000,000, incurring \$4,632,000 of transaction costs. The line of credit contains affirmative, negative and financial covenants customary for an unsecured investment-grade facility. There are two primary negative covenants: 1) a limit on our ability to incur secured debt, and 2) a maximum ratio of debt to EBITDA of 3.50:1 (upon certain acquisitions, the maximum ratio can be 3.75:1 for four quarters). As of December 31, 2020, we were in compliance with the line of credit covenants.

Borrowings on our line of credit 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 repayment beyond twelve months. Borrowings bear interest, at our option, at either LIBOR plus a credit margin ranging from 1.125% to 1.875%, or Truist Bank's base rate (generally, its prime rate) plus a credit margin ranging from 0.125% to 0.875%. The credit margin for both LIBOR and base rate borrowings is 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 credit margin for LIBOR borrowings plus 0.175%. We also pay a commitment fee on the daily average unused amount of the line of credit that ranges from 0.125% to 0.275% determined by our credit ratings. As of December 31, 2020, the credit margin for LIBOR borrowings was 1.250%, the credit margin for base rate borrowings was 0.250%, and the commitment fee for the unused amount was 0.150%.

In September 2020, we terminated our \$750,000,000 364-day delayed draw term loan executed in April 2020. During the second quarter, we had borrowed and repaid \$250,000,000 on this delayed draw term loan leaving \$500,000,000 available for future borrowings prior to its termination.

As of December 31, 2020, our available borrowing capacity under the line of credit was \$943,920,000. Utilization of the borrowing capacity was as follows:

- none was borrowed
- \$56,080,000 was used to provide support for outstanding standby letters of credit

TERM DEBT

All of our \$3,357,899,000 (face value) of term debt is unsecured. \$3,346,188,000 of such debt is governed by three essentially identical indentures that contain customary investment-grade type covenants. The primary covenant in all three indentures limits the amount of secured debt we may incur without ratably securing such debt. As of December 31, 2020, we were in compliance with all term debt covenants.

In May 2020, we issued \$750,000,000 of 3.50% senior notes due 2030. Total proceeds were \$741,417,000 (net of discounts and transaction costs). \$250,000,000 of the proceeds were used to retire the \$250,000,000 floating rate notes due June 2020, and the remainder of the proceeds, together with cash on hand, will be used to retire the \$500,000,000 floating rate notes due March 2021.

In 2018, we completed a number of financing activities resulting in gross proceeds of \$850,000,000 and payments of \$892,055,000. As a result of these activities, we recognized premiums of \$5,608,000, transaction costs of \$1,314,000 and noncash expense (acceleration of unamortized deferred transaction costs) of \$466,000. The combined charge of \$7,388,000 was a component of interest expense for the year ended December 31, 2018.

The total scheduled (principal and interest) debt payments, excluding the line of credit, for the five years subsequent to December 31, 2020 are as follows:

<i>in thousands</i>	<i>Total</i>	<i>Principal</i>	<i>Interest</i>
Scheduled Debt Payments (excluding the line of credit)			
2021	\$ 639,303	\$ 515,435	\$ 123,868
2022	122,720	457	122,263
2023	122,720	459	122,261
2024	122,720	461	122,259
2025	513,720	400,463	113,257

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. All of our standby letters of credit are issued by banks that participate in our \$1,000,000,000 line of credit and reduce the borrowing capacity thereunder. Our standby letters of credit as of December 31, 2020 are summarized by purpose in the table below:

<i>in thousands</i>	
Standby Letters of Credit	
Risk management insurance	\$ 48,982
Reclamation/restoration requirements	7,098
Total	\$ 56,080

NOTE 7: LEASES

Our portfolio of nonmineral leases is composed of leases for real estate (including office buildings, aggregates sales yards, and concrete and asphalt sites) and equipment (including railcars and rail track, barges, office equipment and plant 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>in thousands</i>	<i>Classification on the Balance Sheet</i>	2020	2019
Assets			
Operating lease ROU assets	Operating lease right-of-use assets, net	\$ 482,513	\$ 441,656
Accumulated amortization		(59,385)	(33,467)
Finance lease assets	Property, plant & equipment, net	7,796	1,226
Accumulated amortization		(1,640)	(65)
Total lease assets		\$ 429,284	\$ 409,350
Liabilities			
Current			
Operating	Other current liabilities	\$ 36,969	\$ 29,971
Finance	Other current liabilities	2,047	430
Noncurrent			
Operating	Operating lease liabilities	399,582	388,042
Finance	Other noncurrent liabilities	4,139	733
Total lease liabilities		\$ 442,737	\$ 419,176
Lease Term and Discount Rate			
Weighted-average remaining lease term (years)			
Operating leases		9.5	9.9
Finance leases		4.2	2.8
Weighted-average discount rate			
Operating leases		3.6%	4.3%
Finance leases		1.4%	3.0%

Our building leases have remaining noncancelable periods of 0 - 7 years and lease terms (including options to extend) of 0 - 26 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 - 28 years and lease terms of 0 - 78 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 - 19 years and lease terms of 1 - 78 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 - 4 years and lease terms of 2 - 64 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 0 - 1 years and lease terms of 0 - 14 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 and plant equipment leases have remaining noncancelable periods of 0 - 5 years and lease terms of 0 - 5 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.

Our lease agreements do not contain residual value guarantees, restrictive covenants or early termination options that we deem material. We have not sought or been granted any material lease concessions as a result of the COVID-19 pandemic.

The components of lease expense for the years ended December 31, 2020 and 2019 are as follows:

<i>in thousands</i>	2020	2019
Lease Cost		
Finance lease cost		
Amortization of right-of-use assets	\$ 1,616	\$ 64
Interest on lease liabilities	(102)	(4)
Operating lease cost	58,489	56,546
Short-term lease cost ¹	30,508	35,427
Variable lease cost	12,885	13,739
Sublease income	(2,682)	(3,108)
Total lease cost	\$ 100,714	\$ 102,664

¹ Our short-term leases cost includes the cost of leases with an initial term of one month or less.

Total lease expense for the year ended December 31, 2018 was \$131,015,000.

Cash paid for operating leases was \$54,871,000 for 2020 and \$52,660,000 for 2019. Cash paid for finance leases was \$102,000 for 2020 and \$4,000 for 2019.

Maturity analysis on an undiscounted basis of our lease liabilities (see Note 12 for mineral lease payments) as of December 31, 2020 is as follows:

<i>in thousands</i>	Operating Leases	Finance Leases
Maturity of Lease Liabilities		
2021	\$ 54,733	\$ 2,134
2022	48,225	1,986
2023	41,206	1,058
2024	36,141	779
2025	36,375	349
Thereafter	565,042	50
Total minimum lease payments	\$ 781,722	\$ 6,356
Less: Lease payments representing interest	345,171	170
Present value of future minimum lease payments	\$ 436,551	\$ 6,186
Less: Current obligations under leases	36,969	2,047
Long-term lease obligations	\$ 399,582	\$ 4,139

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 thousands</i>	2020	2019
Accrued Environmental Remediation Costs		
Continuing operations	\$ 25,544	\$ 30,429
Retained from former Chemicals business	10,971	10,972
Total	\$ 36,515	\$ 41,401

The long-term portion of the accruals noted above is included in other noncurrent liabilities in the accompanying Consolidated Balance Sheets and amounted to \$12,943,000 at December 31, 2020 and \$13,567,000 at December 31, 2019. 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 Florida Rock, Tarmac, and CalMat facilities acquired in 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 thousands</i>	2020	2019	2018
Earnings from Continuing Operations before Income Taxes			
Domestic	\$ 732,971	\$ 734,025	\$ 593,446
Foreign	10,827	23,676	29,844
Total	\$ 743,798	\$ 757,701	\$ 623,290

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

<i>in thousands</i>	2020	2019	2018
Income Tax Expense (Benefit) from Continuing Operations			
Current			
Federal	\$ 69,180	\$ 31,234	\$ 21,111
State and local	23,826	24,403	15,127
Foreign	942	3,304	4,278
Total	\$ 93,948	\$ 58,941	\$ 40,516
Deferred			
Federal	\$ 50,890	\$ 67,810	\$ 59,216
State and local	10,798	8,660	8,369
Foreign	167	(213)	(2,652)
Total	\$ 61,855	\$ 76,257	\$ 64,933
Total expense	\$ 155,803	\$ 135,198	\$ 105,449

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 thousands</i>	2020		2019		2018	
Income tax expense at the federal statutory tax rate	\$ 156,198	21.0%	\$ 159,117	21.0%	\$ 130,891	21.0%
Expense (Benefit) from Income Tax Differences						
Statutory depletion	(24,728)	-3.3%	(23,006)	-3.0%	(21,733)	-3.5%
State and local income taxes, net of federal income tax benefit	27,352	3.7%	26,119	3.4%	18,562	3.0%
Share-based compensation	(6,877)	-0.9%	(17,277)	-2.3%	(16,551)	-2.7%
Uncertain tax positions	1,380	0.2%	1,822	0.2%	(6,402)	-1.0%
Transition tax	0	0.0%	0	0.0%	595	0.1%
Research and development credit	(2,650)	-0.4%	(9,490)	-1.3%	0	0.0%
Other, net	5,128	0.6%	(2,087)	-0.2%	87	0.0%
Total income tax expense/ Effective tax rate	\$ 155,803	20.9%	\$ 135,198	17.8%	\$ 105,449	16.9%

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 thousands</i>	2020	2019
Deferred Tax Assets Related to		
Employee benefits	\$ 21,874	\$ 29,996
Incentive compensation	58,194	66,488
Asset retirement obligations & other reserves	58,327	55,033
State net operating losses	67,756	67,354
Other	25,362	44,169
Total gross deferred tax assets	\$ 231,513	\$ 263,040
Valuation allowance	(32,512)	(29,650)
Total net deferred tax asset	\$ 199,001	\$ 233,390
Deferred Tax Liabilities Related to		
Property, plant & equipment	\$ 622,897	\$ 590,075
Goodwill/other intangible assets	252,209	238,712
Other	29,945	37,642
Total deferred tax liabilities	\$ 905,051	\$ 866,429
Net deferred tax liability	\$ 706,050	\$ 633,039

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, 2020, we have Alabama state net operating loss (NOL) carryforward deferred tax assets of \$64,307,000, against which we have a valuation allowance of \$29,236,000. Almost all of the Alabama NOL carryforward would expire between 2023 and 2029 if not utilized.

In February 2021, the Alabama Business Competitiveness Act (the Act) was signed into law. This Act contained a provision that requires 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 was effective as of January 1, 2021 and likely will result in a substantial reduction in our apportionment of income to Alabama; thereby, further inhibiting our ability to utilize our Alabama NOL carryforward. In the first quarter of 2021, we will assess the impact of the Act to our Alabama NOL carryforward and adjust our valuation allowance accordingly.

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

<i>in thousands</i>	<i>2020</i>	<i>2019</i>	<i>2018</i>
Unrecognized tax benefits as of January 1	\$ 5,442	\$ 3,661	\$ 11,643
Increases for tax positions related to			
Prior years	353	273	0
Current year	1,884	3,224	698
Decreases for tax positions related to			
Prior years	0	0	(655)
Expiration of applicable statute of limitations	(862)	(1,716)	(8,025)
Unrecognized tax benefits as of December 31	\$ 6,817	\$ 5,442	\$ 3,661

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 (benefit) were \$36,000 in 2020, \$(11,000) in 2019 and \$(1,477,000) in 2018. The balance of accrued interest and penalties included in our liability for unrecognized tax benefits as of December 31 was \$336,000 in 2020, \$301,000 in 2019 and \$312,000 in 2018. Our liability for unrecognized tax benefits at December 31 in the table above includes \$6,641,000 in 2020, \$5,292,000 in 2019 and \$3,481,000 in 2018 that would affect the effective tax rate if recognized. We anticipate no single tax position generating a significant increase in our liability for unrecognized tax benefits within 12 months of this reporting date.

As of December 31, 2020, income tax receivables of \$5,314,000 and \$938,000 are included in other accounts and notes receivable and other current assets, respectively, in the accompanying Consolidated Balance Sheet. There were similar receivables of \$299,000 recorded in other current assets as of December 31, 2019.

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, based on salaries or wages and years of service, 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 presented in the table below includes \$67,241,000 and \$70,298,000 related to these unfunded, nonqualified pension plans for 2020 and 2019, respectively.

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.

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 thousands</i>	<i>2020</i>	<i>2019</i>
Change in Benefit Obligation		
Projected benefit obligation at beginning of year	\$ 1,090,893	\$ 958,936
Service cost	4,899	4,995
Interest cost	29,335	37,640
Actuarial loss	89,109	141,922
Benefits paid	(154,691)	(52,600)
Projected benefit obligation at end of year	\$ 1,059,545	\$ 1,090,893
Change in Fair Value of Plan Assets		
Fair value of assets at beginning of year	\$ 949,007	\$ 836,770
Actual return on plan assets	141,155	155,955
Employer contribution	8,819	8,882
Benefits paid	(154,691)	(52,600)
Fair value of assets at end of year	\$ 944,290	\$ 949,007
Funded status	(115,255)	(141,886)
Net amount recognized	\$ (115,255)	\$ (141,886)
Amounts Recognized in the Consolidated Balance Sheets		
Noncurrent assets	\$ 0	\$ 9,056
Current liabilities	(8,060)	(8,579)
Noncurrent liabilities	(107,195)	(142,363)
Net amount recognized	\$ (115,255)	\$ (141,886)
Amounts Recognized in Accumulated Other Comprehensive Income		
Net actuarial loss	\$ 230,452	\$ 268,483
Prior service cost	5,148	6,488
Total amount recognized	\$ 235,600	\$ 274,971

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 thousands</i>	2020	2019
Pension plans with ABO in excess of plan assets		
Accumulated benefit obligation	\$ 1,058,645	\$ 1,009,224
Fair value of assets	944,290	858,936
Pension plans with PBO in excess of plan assets		
Projected benefit obligation	\$ 1,059,545	\$ 1,009,877
Fair value of assets	944,290	858,936

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 thousands</i>	2020	2019	2018
Components of Net Periodic Pension Benefit Cost			
Service cost	\$ 4,899	\$ 4,995	\$ 5,716
Interest cost	29,335	37,640	35,503
Expected return on plan assets	(48,599)	(47,751)	(59,188)
Settlement charge	22,740	0	0
Amortization of prior service cost	1,340	1,340	1,340
Amortization of actuarial loss	11,845	5,433	9,826
Net periodic pension benefit cost (credit)	\$ 21,560	\$ 1,657	\$ (6,803)
Changes in Plan Assets and Benefit Obligations Recognized in Other Comprehensive Income			
Net actuarial loss (gain)	\$ (3,446)	\$ 33,717	\$ (555)
Prior service cost	0	0	0
Reclassification of prior service cost	(1,340)	(1,340)	(1,340)
Reclassification of actuarial loss	(34,585)	(5,433)	(9,826)
Amount recognized in other comprehensive income	\$ (39,371)	\$ 26,944	\$ (11,721)
Amount recognized in net periodic pension benefit cost and other comprehensive income	\$ (17,811)	\$ 28,601	\$ (18,524)
Assumptions			
Weighted-average assumptions used to determine net periodic benefit cost for years ended December 31			
Discount rate — PBO	3.22%	4.39%	3.72%
Discount rate — service cost (12/31/19 / 11/30/20)	3.49% / 2.89%	4.59%	3.90%
Discount rate — interest cost	2.78%	4.02%	3.35%
Expected return on plan assets (12/31/19 / 11/30/20)	5.75% / 5.25%	5.75%	7.00%
Weighted-average assumptions used to determine benefit obligation at December 31			
Discount rate	2.57%	3.28%	4.39%

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, 2020 and 2019, the total pension asset allocation was approximately 50% return seeking and 50% liability hedging. 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, 2020 and 2019 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, 2020

<i>in thousands</i>	<i>Level 1</i>	<i>Level 2</i>	<i>Level 3</i>	<i>Total</i>
Asset Category				
Debt funds	\$ 0	\$ 456,238	\$ 0	\$ 456,238
Equity funds	16	115,779	0	115,795
Investments in the fair value hierarchy	\$ 16	\$ 572,017	\$ 0	\$ 572,033
Interest in common/collective trusts (at NAV)				367,105
Private partnerships (at NAV)				5,152
Total pension plan assets				\$ 944,290

FAIR VALUE MEASUREMENTS AT DECEMBER 31, 2019

<i>in thousands</i>	<i>Level 1</i>	<i>Level 2</i>	<i>Level 3</i>	<i>Total</i>
Asset Category				
Debt funds	\$ 0	\$ 435,692	\$ 0	\$ 435,692
Equity funds	549	120,253	0	120,802
Investments in the fair value hierarchy	\$ 549	\$ 555,945	\$ 0	\$ 556,494
Interest in common/collective trusts (at NAV)				387,785
Private partnerships (at NAV)				4,728
Total pension plan assets				\$ 949,007

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, 2020 and 2019.

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 of a mutual fund investing in 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 index funds for domestic equities, an actively managed fund for international equities, and a short-term investment fund for highly liquid, short-term debt securities. Investments are valued at the net asset value (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 thousands</i>	<i>Pension</i>
Employer Contributions	
2018	\$ 109,631
2019	8,882
2020	8,819
2021 (estimated)	8,060

For our qualified pension plans, we made discretionary contributions of \$100,000,000 during 2018, and made no contributions during 2020 and 2019. We do not anticipate making contributions to our qualified pension plans in 2021. For our nonqualified pension plans, we contributed \$8,819,000, \$8,882,000 and \$9,631,000 during 2020, 2019 and 2018, respectively, and expect to contribute \$8,060,000 during 2021.

The following benefit payments, which reflect expected future service, as appropriate, are expected to be paid:

<i>in thousands</i>	<i>Pension</i>
Estimated Future Benefit Payments	
2021	\$ 55,333
2022	56,968
2023	57,558
2024	58,019
2025	56,217
2026-2030	279,537

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, 2020, 2019 and 2018. Total contributions to multiemployer pension plans were \$10,277,000 in 2020, \$10,385,000 in 2019 and \$10,081,000 in 2018.

As of December 31, 2020, a total of 8.2% of our domestic hourly labor force was covered by collective-bargaining agreements. Of such employees covered by collective-bargaining agreements, 14.0% were covered by agreements that expire in 2021. We also employed 339 union employees in Mexico who are covered by a collective-bargaining agreement that will expire in 2021. 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, 2020 and 2019. The accrued costs for the supplemental retirement plan were \$2,525,000 at December 31, 2020 and \$1,069,000 at December 31, 2019.

POSTRETIREMENT PLANS

In addition to pension benefits, we provide certain healthcare and life insurance benefits for some retired employees. In 2012, we amended our postretirement healthcare plan to cap our portion of the medical coverage cost at the 2015 level (as a result, the accumulated benefit obligation equals the projected benefit obligation). 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 thousands</i>	2020	2019
Change in Benefit Obligation		
Projected benefit obligation at beginning of year	\$ 41,187	\$ 40,834
Service cost	1,520	1,317
Interest cost	969	1,388
Actuarial (gain) loss	(5,111)	2,677
Benefits paid	(4,682)	(5,029)
Projected benefit obligation at end of year	\$ 33,883	\$ 41,187
Change in Fair Value of Plan Assets		
Fair value of assets at beginning of year	\$ 0	\$ 0
Actual return on plan assets	0	0
Fair value of assets at end of year	\$ 0	\$ 0
Funded status	\$ (33,883)	\$ (41,187)
Net amount recognized	\$ (33,883)	\$ (41,187)
Amounts Recognized in the Consolidated Balance Sheets		
Current liabilities	\$ (4,471)	\$ (5,339)
Noncurrent liabilities	(29,412)	(35,848)
Net amount recognized	\$ (33,883)	\$ (41,187)
Amounts Recognized in Accumulated Other Comprehensive Income		
Net actuarial gain	\$ (19,003)	\$ (14,642)
Prior service credit	(3,656)	(7,575)
Total amount recognized	\$ (22,659)	\$ (22,217)

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 thousands</i>	2020	2019	2018
Components of Net Periodic Postretirement Benefit Cost			
Service cost	\$ 1,521	\$ 1,317	\$ 1,358
Interest cost	969	1,388	1,240
Amortization of prior service credit	(3,919)	(3,919)	(3,962)
Amortization of actuarial gain	(806)	(1,309)	(1,298)
Net periodic postretirement benefit credit	\$ (2,235)	\$ (2,523)	\$ (2,662)
Changes in Plan Assets and Benefit Obligations Recognized in Other Comprehensive Income			
Net actuarial (gain) loss	\$ (5,168)	\$ 2,673	\$ 835
Reclassification of prior service credit	3,919	3,919	3,962
Reclassification of actuarial gain	806	1,309	1,298
Amount recognized in other comprehensive income	\$ (443)	\$ 7,901	\$ 6,095
Amount recognized in net periodic postretirement benefit cost and other comprehensive income	\$ (2,678)	\$ 5,378	\$ 3,433
Assumptions			
Weighted-average assumptions used to determine net periodic benefit cost for years ended December 31			
Discount rate — PBO	2.84%	4.01%	3.34%
Discount rate — service cost	3.09%	4.23%	3.56%
Discount rate — interest cost	2.42%	3.63%	2.90%
Weighted-average assumptions used to determine benefit obligation at December 31			
Discount rate	2.09%	2.84%	4.01%

Total employer contributions to the postretirement plans are presented below:

<i>in thousands</i>	<i>Postretirement</i>
Employer Contributions	
2018	\$ 6,099
2019	5,029
2020	4,682
2021 (estimated)	4,471

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 thousands</i>	<i>Postretirement</i>
Estimated Future Benefit Payments	
2021	\$ 4,471
2022	3,951
2023	3,688
2024	3,358
2025	3,054
2026–2030	11,023

Contributions by participants to the postretirement benefit plans for the years ended December 31 are as follows:

<i>in thousands</i>	<i>Postretirement</i>
Participants Contributions	
2018	\$ 1,984
2019	2,239
2020	2,553

PENSION AND OTHER POSTRETIREMENT BENEFITS ASSUMPTIONS

Each year, we review our assumptions for discount rates (used for PBO, service cost, and interest cost calculations) and the expected return on plan assets. Due to plan changes made in 2012 and 2013, annual pay increases and the per capita cost of healthcare benefits 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, 2020, the discount rates used were as follows:

- PBO for various plans – ranged from 1.55% to 2.72% (December 31, 2019 ranged from 2.67% to 3.37%)
- Service cost – weighted average of 2.92% and 3.09%, respectively, for our pension plans and our other postretirement plans (2019 figures were 4.59% and 4.23%, respectively)
- Interest cost – weighted average of 2.78% and 2.42%, respectively, for our pension plans and our other postretirement plans (2019 figures were 4.02% and 3.63%, respectively)

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. The expected return on plan assets used to measure plan benefit costs was 5.75% for the period January 1, 2020 – November 30, 2020 and 5.25% for the period December 1, 2020 – December 31, 2020 (5.75% in 2019). For 2021, we set the expected return on plan assets to 5.25%.

DEFINED CONTRIBUTION PLANS

In addition to our pension and postretirement plans, we sponsor two 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 \$50,772,000 in 2020, \$53,853,000 in 2019 and \$40,718,000 in 2018.

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 6,331,687 shares remain under this authorization.

PERFORMANCE SHARES — Each performance share unit is equal to and paid in one share of our common stock, but carries no voting or dividend 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 \$17,798,000 in 2020, \$18,236,000 in 2019 and \$13,656,000 in 2018.

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, 2020:

	<i>Target Number of Shares</i>	<i>Weighted-average Grant Date Fair Value</i>
Performance Shares		
Nonvested at January 1, 2020	244,904	\$ 113.55
Granted	117,740	133.95
Vested	(112,302)	117.19
Canceled/forfeited	(6,483)	120.66
Nonvested at December 31, 2020	243,859	\$ 121.53

During 2019 and 2018, the weighted-average grant date fair value of performance shares granted was \$110.39 and \$117.20, 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 thousands</i>	<i>2020</i>	<i>2019</i>	<i>2018</i>
Aggregate value of distributed performance shares	\$ 38,841	\$ 33,169	\$ 53,721

RESTRICTED SHARES — Each restricted share unit is equal to and paid in one share of our common stock, but carries no voting or dividend 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 \$9,766,000 in 2020, \$7,789,000 in 2019 and \$4,831,000 in 2018.

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, 2020:

	<i>Number of Shares</i>	<i>Weighted-average Grant Date Fair Value</i>
Restricted Stock Units		
Nonvested at January 1, 2020	211,930	\$ 108.34
Granted	82,271	133.95
Vested	(86,302)	102.12
Canceled/forfeited	(7,746)	119.63
Nonvested at December 31, 2020	200,153	\$ 121.11

During 2019 and 2018, the weighted-average grant date fair value of restricted shares granted was \$110.39 and \$117.20, 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 thousands</i>	<i>2020</i>	<i>2019</i>	<i>2018</i>
Aggregate value of distributed restricted shares	\$ 12,210	\$ 2,417	\$ 1,345

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:

	<i>2020</i>	<i>2019</i>	<i>2018</i>
SOSARs			
Fair value	\$ 40.91	\$ 38.90	\$ 43.72
Risk-free interest rate	1.50%	2.62%	2.90%
Dividend yield	0.71%	0.87%	1.39%
Volatility	25.74%	27.23%	31.49%
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, 2020 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 thousands)</i>
SOSARs				
Outstanding at January 1, 2020	944,599	\$ 76.84		
Granted	75,300	133.95		
Exercised	(229,993)	48.16		
Forfeited or expired	(1,470)	43.05		
Outstanding at December 31, 2020	788,436	\$ 90.72	5.03	\$ 44,106
Exercisable at December 31, 2020	641,613	\$ 82.84	4.23	\$ 40,949

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 2020 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, 2020. 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 thousands</i>	2020	2019	2018
Aggregate intrinsic value of SOSARs exercised	\$ 22,273	\$ 74,838	\$ 49,248

The following table presents cash and stock consideration received and tax benefit realized from SOSAR exercises and compensation cost recorded referable to SOSARs for the years ended December 31:

<i>in thousands</i>	2020	2019	2018
SOSARs			
Cash and stock consideration received from exercises	\$ 0	\$ 0	\$ 0
Tax benefit from exercises	5,693	29,000	19,083
Compensation cost	3,855	4,042	4,763

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 \$1,572,000 in 2020, \$1,776,000 in 2019 and \$1,965,000 in 2018.

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 \$42,138,000 in 2020, \$40,847,000 in 2019 and \$36,969,000 in 2018.

NOTE 12: COMMITMENTS AND CONTINGENCIES

We have commitments in the form of unconditional purchase obligations as of December 31, 2020. These include commitments for the purchase of property, plant & equipment of \$6,947,000 and commitments for noncapital purchases of \$46,165,000. These commitments are due as follows:

<i>in thousands</i>	<i>Unconditional Purchase Obligations</i>
Property, Plant & Equipment	
2021	\$ 6,947
Thereafter	0
Total	\$ 6,947
Noncapital (primarily transportation and electricity contracts)	
2021	\$ 16,005
2022–2023	15,106
2024–2025	4,054
Thereafter	11,000
Total	\$ 46,165

Expenditures for noncapital purchases totaled \$87,438,000 in 2020, \$87,044,000 in 2019 and \$56,674,000 in 2018.

We have commitments in the form of minimum royalties under mineral leases as of December 31, 2020 in the amount of \$265,560,000, due as follows:

<i>in thousands</i>	<i>Mineral Leases</i>
Minimum Royalties	
2021	\$ 27,210
2022–2023	43,491
2024–2025	27,712
Thereafter	167,147
Total	\$ 265,560

Expenditures for royalties under mineral leases totaled \$81,549,000 in 2020, \$84,782,000 in 2019 and \$76,761,000 in 2018.

As of December 31, 2020, we were contingently liable for \$835,819,000 within 522 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 \$206,015,000 (25%) 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.

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 \$74,135,000 as of December 31, 2020.

As summarized by purpose in Note 6, our standby letters of credit totaled \$56,080,000 as of December 31, 2020.

As outlined in Note 7, our present value of future minimum (nonmineral) lease payments totaled \$442,737,000 as of December 31, 2020.

As described in Note 9, our liability for unrecognized tax benefits is \$6,817,000 as of December 31, 2020.

As described in Note 17, our asset retirement obligations totaled \$283,163,000 as of December 31, 2020.

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.

In August 2017, the EPA informed certain members of the CPG, including Vulcan, 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. This voluntary allocation process is intended to establish an impartial third-party expert recommendation that may be considered by the government and the participants as the basis of possible settlements. The final allocation recommendations, which are subject to confidentiality provisions, were submitted to the EPA for its review and consideration in late December 2020. It is unknown when the EPA might respond or whether it will seek further information. The allocator's recommendation with respect to Vulcan, if ultimately adopted, would be 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 whether the filing of the Occidental lawsuit will impact the EPA allocation process.

In October 2018, the EPA ordered the CPG to prepare a streamlined feasibility study specifically for the upper 9 miles of the River. This directive is focused on dioxin and covers the remaining portion of the River not included in the EPA's March 2016 ROD.

Efforts to 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 as 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.

The AOC does not obligate us to fund or perform the remedial action contemplated by either the draft RI/FS or the ROD. Furthermore, the parties who will participate in funding the remediation and their respective allocations have not been determined. We do not agree that a bank-to-bank remedy is warranted, and we are not obligated to fund any of the remedial action at this time; nevertheless, we previously estimated the cost to be incurred by us as a potential participant in a bank-to-bank dredging remedy and recorded an immaterial loss for this matter in 2015.

- **TEXAS BRINE MATTER (DISCONTINUED OPERATIONS)** — During the operation of its former Chemicals Division, Vulcan secured the right to mine salt out of an underground salt dome formation in Assumption Parish, Louisiana from 1976 - 2005. Throughout that period and for all times thereafter, the Texas Brine Company (Texas Brine) was the operator contracted by Vulcan (and later Occidental) to mine and deliver the salt. We sold our Chemicals Division in 2005 and transferred our rights and interest related to the salt and mining operations to the purchaser, a subsidiary of 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, and numerous lawsuits were filed in state court in Assumption Parish, Louisiana. Other lawsuits, including class action litigation, were also filed in federal court before the Eastern District of Louisiana in New Orleans.

There are numerous defendants, including Texas Brine and Occidental, to the litigation in state and federal court. Vulcan was first brought into the litigation as a third-party defendant in August 2013 by Texas Brine. We have since been added as a direct and third-party defendant by other parties, including a direct claim by the state of Louisiana. Damage categories encompassed within the litigation include individual plaintiffs' claims for property damage, a claim by the state of Louisiana for response costs and civil penalties, claims by Texas Brine for response costs and lost profits, claims for physical damages to nearby oil and gas pipelines and storage facilities (pipelines), and business interruption claims.

In addition to the plaintiffs' claims, we were also sued for contractual indemnity and comparative fault by both Texas Brine and Occidental. It is alleged that the sinkhole was caused, in whole or in part, by our negligent actions or failure to act. It is also alleged 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 certain covenants and conditions in the agreement under which we sold our Chemicals Division to Occidental. We likewise made claims for contractual indemnity and on a basis of comparative fault against Texas Brine and Occidental. Vulcan and Occidental have since dismissed all of their claims against one another. Texas Brine has claims that remain pending against Vulcan and against Occidental.

A bench trial (judge only) began in September 2017 and ended in October 2017 in the pipeline cases. The trial was limited in scope to the allocation of comparative fault or liability for causing the sinkhole, with a damages phase of the trial to be held at a later date. In December 2017, the judge issued a ruling on the allocation of fault among the three defendants as follows: Occidental 50%, Texas Brine 35% and Vulcan 15%. This ruling was appealed by the parties. In December 2020, the Louisiana Court of Appeal, First Circuit issued its Notice of Judgement and Disposition in one of the pipeline cases reversing in part and amending the trial court judgment to reallocate 20% of the fault from Occidental to Texas Brine, with the result that 30% of the fault is now allocated to Occidental and 55% of the fault is now allocated to Texas Brine. The Court of Appeal affirmed the 15% fault allocation to Vulcan. The Court of Appeal made various other findings, including findings related to the arbitrability of certain claims between Occidental and Texas Brine. In January 2021, Texas Brine applied to the Court of Appeal for a rehearing regarding whether Occidental waived arbitration rights. Vulcan anticipates that one or more of the parties will seek review of the Court of Appeal's decision by the Louisiana Supreme Court following disposition of Texas Brine's rehearing application.

We have settled all except two outstanding cases, and our insurers to date have funded these settlements in excess of our self-insured retention amount. The remaining cases involve Texas Brine and the State of Louisiana. Discovery remains ongoing, and we cannot reasonably estimate a range of liability pertaining to these open cases at this time.

- **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. The groundwater treatment system reached mechanical completion in late 2020 and is currently in a shakedown testing period. Operation testing is expected to be completed in early 2021 and will be followed by full system operation. 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 (NHO) 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 NHO. 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 a new project by LADWP at the Rinaldi-Toluca (RT) wellfield. 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. 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 includes a request for Vulcan to revise and develop a Final PDI Evaluation Report. The final comments further provide, 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 includes edits to the Draft PDI Evaluation Report and responses to 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 agreed upon, we cannot identify an appropriate remedial action that will be required under the AOC. 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 NHO 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 third quarter 2020, Vulcan recorded an immaterial accrual related to Honeywell's contribution claim for certain types of cost incurred. 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. This work is also intended to assist in identification of other PRPs that may have contributed to groundwater contamination in the area. At this time, we cannot reasonably estimate a range of an additional loss to Vulcan pertaining to this contribution claim.

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). Our NAFTA claim relates to the treatment of a portion of our quarrying operations in Playa del Carmen (Cancun), 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, which we filed with the International Centre for Settlement of Investment Disputes (ICSID) in December 2018. In January 2019, ICSID registered our Request for Arbitration.

We expect that the NAFTA arbitration will take at least two years to be concluded. 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 were successful.

Item 103 of Regulation S-K requires disclosure of certain environmental matters when a governmental authority is a party to the proceedings, or such proceedings are known to be contemplated, unless we reasonably believe that the matter will result in no monetary sanctions, or in monetary sanctions, exclusive of interest and costs, of less than \$300,000 (which threshold was \$100,000 prior to November 9, 2020). We previously disclosed that, in June 2019, we received a draft administrative order from the EPA to settle alleged violations of the Clean Water Act at one of our aggregates sites. In November 2020, we reached a settlement with the EPA regarding this matter, under which we paid a civil penalty of \$68,000.

It is not possible to predict with certainty 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, 2020, 2019 and 2018.

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 thousands, except average cost</i>	2020	<i>2019</i>	<i>2018</i>
Shares Purchased and Retired			
Number	214	19	1,192
Total purchase price	\$ 26,132	\$ 2,602	\$ 133,983
Average cost per share	\$ 121.92	\$ 139.90	\$ 112.41

As of December 31, 2020, 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 thousands, except per share data</i>	2020	<i>2019</i>	<i>2018</i>
Dividends			
Cash dividends	\$ 180,216	\$ 163,973	\$ 148,109
Cash dividends per share	\$ 1.36	\$ 1.24	\$ 1.12

NOTE 14: OTHER COMPREHENSIVE INCOME

Comprehensive income comprises two subsets: net earnings and other comprehensive income (OCI). The components of other comprehensive income 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 (AOCI), net of tax, at December 31, are as follows:

<i>in thousands</i>	2020	2019	2018
AOCI			
Interest rate hedges	\$ (23,943)	\$ (10,953)	\$ (11,180)
Pension and postretirement plans	(157,362)	(186,785)	(161,035)
Total	\$ (181,305)	\$ (197,738)	\$ (172,215)

Changes in AOCI, net of tax, for the three years ended December 31, 2020 are as follows:

<i>in thousands</i>	Interest Rate Hedges	Pension and Postretirement Benefit Plans	Total
AOCI			
Balances at December 31, 2017	\$ (11,438)	\$ (138,028)	\$ (149,466)
Released stranded tax effects ASU 2018-02	(2,464)	(27,165)	(29,629)
Balances at January 1, 2018, due to reclassification	\$ (13,902)	\$ (165,193)	\$ (179,095)
Other comprehensive income (loss) before reclassifications	2,496	(207)	2,289
Amounts reclassified from AOCI	226	4,365	4,591
Net OCI changes	2,722	4,158	6,880
Balances at December 31, 2018	\$ (11,180)	\$ (161,035)	\$ (172,215)
Other comprehensive income (loss) before reclassifications	0	(26,892)	(26,892)
Amounts reclassified from AOCI	227	1,142	1,369
Net OCI changes	227	(25,750)	(25,523)
Balances at December 31, 2019	\$ (10,953)	\$ (186,785)	\$ (197,738)
Other comprehensive income (loss) before reclassifications	(14,679)	6,366	(8,313)
Amounts reclassified from AOCI	1,689	23,057	24,746
Net OCI changes	(12,990)	29,423	16,433
Balances at December 31, 2020	\$ (23,943)	\$ (157,362)	\$ (181,305)

Amounts reclassified from AOCI to earnings, are as follows:

<i>in thousands</i>	2020	2019	2018
Amortization of Interest Rate Hedge Losses			
Interest expense	\$ 2,286	\$ 307	\$ 306
Benefit from income taxes	(597)	(80)	(80)
Total	\$ 1,689	\$ 227	\$ 226
Amortization of Pension and Postretirement Plan Actuarial Loss and Prior Service Cost			
Other nonoperating expense	\$ 31,200	\$ 1,545	\$ 5,906
Benefit from income taxes	(8,143)	(403)	(1,541)
Total	\$ 23,057	\$ 1,142	\$ 4,365
Total reclassifications from AOCI to earnings	\$ 24,746	\$ 1,369	\$ 4,591

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 2020, the Aggregates segment principally served markets in twenty states, Washington D.C. and Mexico with a full line of aggregates, and thirteen additional states with railroad ballast. 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. We entered the Alabama asphalt market in 2018 through an acquisition (see Note 19).

The Concrete segment produces and sells ready-mixed concrete in four states: California, Maryland, Texas and Virginia, in addition to Washington D.C. In 2020 and 2018, we exited the New Mexico and Georgia ready-mixed concrete markets, respectively, through divestitures (see Note 19).

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. 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 \$4,845,863,000 in 2020, \$4,912,972,000 in 2019 and \$4,365,309,000 in 2018. Nondomestic Aggregates segment revenues were \$10,963,000 in 2020, \$16,131,000 in 2019 and \$17,560,000 in 2018; 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 \$261,574,000 in 2020, \$274,439,000 in 2019 and \$278,520,000 in 2018. Equity method investments of \$26,524,000 in 2020, \$50,587,000 in 2019 and \$39,395,000 in 2018 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 thousands</i>	2020	2019	2018
Total Revenues			
Aggregates ¹	\$ 3,944,286	\$ 3,990,275	\$ 3,513,649
Asphalt ²	792,605	855,821	733,182
Concrete	383,617	395,627	401,999
Calcium	7,720	8,191	8,110
Segment sales	\$ 5,128,228	\$ 5,249,914	\$ 4,656,940
Aggregates intersegment sales	(271,402)	(320,811)	(274,071)
Total revenues	\$ 4,856,826	\$ 4,929,103	\$ 4,382,869
Gross Profit			
Aggregates	\$ 1,159,178	\$ 1,146,649	\$ 991,858
Asphalt	75,233	63,023	56,480
Concrete	44,159	43,151	49,893
Calcium	2,911	3,078	2,714
Total	\$ 1,281,481	\$ 1,255,901	\$ 1,100,945
Depreciation, Depletion, Accretion & Amortization (DDA&A)			
Aggregates	\$ 321,127	\$ 305,046	\$ 281,641
Asphalt	34,956	35,199	31,290
Concrete	16,010	13,620	12,539
Calcium	189	232	272
Other	24,524	20,499	20,504
Total	\$ 396,806	\$ 374,596	\$ 346,246
Capital Expenditures ³			
Aggregates	\$ 331,893	\$ 383,406	\$ 422,175
Asphalt	19,803	9,095	38,154
Concrete	11,664	11,641	12,291
Calcium	0	31	22
Corporate	0	175	2,587
Total	\$ 363,360	\$ 404,348	\$ 475,229
Identifiable Assets ⁴			
Aggregates	\$ 9,459,185	\$ 9,334,218	\$ 8,887,749
Asphalt	573,059	558,386	527,226
Concrete	305,523	325,102	266,581
Calcium	3,345	3,653	3,942
Total identifiable assets	\$ 10,341,112	\$ 10,221,359	\$ 9,685,498
General corporate assets	147,780	152,928	102,228
Cash and cash equivalents and restricted cash	1,198,013	274,506	44,404
Total assets	\$ 11,686,905	\$ 10,648,793	\$ 9,832,130

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 capitalized replacements of and additions to property, plant & equipment, including renewals and betterments. 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.

NOTE 16: SUPPLEMENTAL CASH FLOW INFORMATION

Supplemental information referable to the Consolidated Statements of Cash Flows is summarized below:

<i>in thousands</i>	2020	2019	2018
Cash Payments (Refunds)			
Interest (exclusive of amount capitalized)	\$ 129,182	\$ 129,224	\$ 128,217
Income taxes	95,934	56,812	(65,968)
Noncash Investing and Financing Activities			
Accrued liabilities for purchases of property, plant & equipment	\$ 55,904	\$ 57,309	\$ 37,116
Recognition of new asset retirement obligations	353	263	20
Right-of-use assets obtained in exchange for new Operating lease liabilities ¹	49,586	444,547	0
Finance lease liabilities ¹	6,631	1,227	0
Amounts referable to business acquisitions			
Liabilities assumed	5,879	4,373	5,405
Consideration payable to seller	8,980	0	4,500
Fair value of noncash assets and liabilities exchanged	21,213	0	0
Debt issued for purchases of property, plant & equipment	2,571	0	0

¹ The 2019 amount includes the initial right-of-use assets resulting from our adoption of ASU 2016-02, "Leases."

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. 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 an amount other than the carrying amount of the liability, we recognize a gain or loss on settlement.

We record all AROs for which we have legal obligations for land reclamation at estimated fair value. These AROs relate to our underlying land parcels, including both owned properties and mineral leases. For the years ended December 31, we recognized ARO operating costs related to accretion of the liabilities and depreciation of the assets as follows:

<i>in thousands</i>	2020	2019	2018
ARO Operating Costs			
Accretion	\$ 12,432	\$ 10,992	\$ 10,776
Depreciation	8,592	7,075	6,034
Total	\$ 21,024	\$ 18,067	\$ 16,810

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 thousands</i>	2020	2019
Asset Retirement Obligations		
Balance at beginning of year	\$ 210,323	\$ 225,726
Liabilities incurred	353	263
Liabilities settled	(12,820)	(12,457)
Accretion expense	12,432	10,992
Revisions, net	72,875	(14,201)
Balance at end of year	\$ 283,163	\$ 210,323

ARO liabilities settled during 2020 and 2019 include \$2,563,000 and \$3,354,000, respectively, of reclamation activities required under a development agreement and conditional use permits at two adjacent aggregates sites on owned property in Southern California. The reclamation required under the development agreement will result in the restoration of 90 acres of previously mined property to conditions suitable for commercial and retail development.

ARO revisions during 2020 primarily include increases in estimated costs at two aggregates locations, including reclamation activities required under a development agreement at an aggregates site on owned property in Southern California. The reclamation required under the development agreement will result in the restoration of previously mined property to conditions suitable for retail and commercial development.

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. There were no charges for goodwill impairment in the years ended December 31, 2020, 2019 and 2018. Accumulated goodwill impairment losses amount to \$252,664,000 in the Calcium 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, 2020 are shown below:

<i>in thousands</i>	<i>Aggregates</i>	<i>Asphalt</i>	<i>Concrete</i>	<i>Calcium</i>	<i>Total</i>
Goodwill					
Totals at December 31, 2018	\$ 3,073,763	\$ 91,633	\$ 0	\$ 0	\$ 3,165,396
Goodwill of acquired businesses ¹	1,665	0	0	0	1,665
Totals at December 31, 2019	\$ 3,075,428	\$ 91,633	\$ 0	\$ 0	\$ 3,167,061
Goodwill of acquired businesses ¹	5,051	0	0	0	5,051
Totals at December 31, 2020	\$ 3,080,479	\$ 91,633	\$ 0	\$ 0	\$ 3,172,112

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 2020, 2019 and 2018. 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 2020, 2019 and 2018.

The gross carrying amount and accumulated amortization by major intangible asset class for the years ended December 31 are summarized below:

<i>in thousands</i>	2020	2019
Gross Carrying Amount		
Contractual rights in place	\$ 1,158,966	\$ 1,132,958
Noncompetition agreements	5,667	7,667
Permitting, permitting compliance and zoning rights	138,958	136,646
Other ¹	51,927	11,951
Total gross carrying amount	\$ 1,355,518	\$ 1,289,222
Accumulated Amortization		
Contractual rights in place	\$ (188,953)	\$ (155,555)
Noncompetition agreements	(5,167)	(6,126)
Permitting, permitting compliance and zoning rights	(30,180)	(30,545)
Other ¹	(7,674)	(5,521)
Total accumulated amortization	\$ (231,974)	\$ (197,747)
Total Intangible Assets Subject to Amortization, net	\$ 1,123,544	\$ 1,091,475
Intangible Assets with Indefinite Lives	0	0
Total Intangible Assets, net	\$ 1,123,544	\$ 1,091,475
Amortization Expense for the Year	\$ 46,611	\$ 40,541

¹ Includes patents, customer relationships, tradenames and trademarks.

Estimated amortization expense for the five years subsequent to December 31, 2020 is as follows:

<i>in thousands</i>	
Estimated Amortization Expense for Five Subsequent Years	
2021	\$ 40,975
2022	38,200
2023	37,103
2024	35,429
2025	35,041

NOTE 19: ACQUISITIONS AND DIVESTITURES

BUSINESS ACQUISITIONS

2020 BUSINESS ACQUISITIONS — During 2020, we purchased the following operations for total consideration of \$73,416,000 (\$43,223,000 cash and \$30,193,000 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 are material to our results of operations or financial position either individually or collectively.

As a result of the 2020 acquisitions, we recognized \$65,545,000 of amortizable intangible assets and \$5,051,000 of goodwill. The amortizable intangible assets will be amortized against earnings (\$25,712,000 - straight-line basis over a weighted-average 20.0 years) and \$25,712,000 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.

2019 BUSINESS ACQUISITIONS — During 2019, we purchased the following operations, none of which were material to our results of operations or financial position either individually or collectively, for total cash consideration of \$45,273,000 (additionally, immaterial adjustments were made to prior year acquisitions):

- Tennessee — aggregates operations
- Virginia — ready-mixed concrete operations

The 2019 acquisitions listed above are reported in our consolidated financial statements as of their respective acquisition dates.

As a result of the 2019 acquisitions, we recognized \$25,443,000 of amortizable intangible assets (contractual rights in place). The contractual rights in place will be amortized against earnings on a straight-line basis over a weighted-average 19.5 years and will be deductible for income tax purposes over 15 years.

2018 BUSINESS ACQUISITIONS — During 2018, we purchased the following operations, none of which were material to our results of operations or financial position either individually or collectively, for total consideration of \$219,863,000 (\$215,363,000 cash and \$4,500,000 payable):

- Alabama — aggregates, asphalt mix and construction paving operations
- California — aggregates and asphalt mix operations
- Texas — aggregates rail yards, asphalt mix and construction paving operations

The 2018 acquisitions listed above are reported in our consolidated financial statements as of their respective acquisition dates. Immaterial adjustments were recorded in 2019 including a working capital adjustment in which we received \$1,122,000 and an increase to goodwill of \$1,665,000.

As a result of the 2018 acquisitions, we recognized \$44,163,000 of amortizable intangible assets (contractual rights in place). The contractual rights in place will be amortized against earnings (\$43,072,000 - straight-line over a weighted-average 19.9 years and \$1,080,000 - units of sales in excess of 30.0 years) and \$7,385,000 will be deductible for income tax purposes over 15 years. Of the \$43,990,000 of goodwill recognized, \$4,863,000 will be deductible for income tax purposes over 15 years, and \$31,721,000 represents the balance of deferred tax liabilities generated from carrying over the seller's tax basis in the assets acquired.

DIVESTITURES AND PENDING DIVESTITURES

In 2020, we sold:

- Fourth quarter — a Virginia ready-mix 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-mix 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

In 2019, we sold:

- First quarter — two aggregates operations in Georgia and reversed a contingent payable related to the fourth quarter 2017 Department of Justice required divestiture of former Aggregates USA operations, resulting in a pretax gain of \$4,064,000

In 2018, we sold:

- First quarter — ready-mixed concrete operations in Georgia resulting in a pretax gain of \$2,929,000 (we retained all real property which is leased to the buyer, and obtained a long-term aggregates supply agreement)

No assets met the criteria for held for sale at December 31, 2020, 2019 or 2018.

NOTE 20: UNAUDITED SUPPLEMENTARY DATA

The following is a summary of selected quarterly financial information (unaudited) for each of the years ended December 31, 2020 and 2019:

<i>in thousands, except per share data</i>	2020			
	<i>Three Months Ended</i>			
	<i>March 31</i>	<i>June 30</i>	<i>Sept 30</i>	<i>Dec 31</i>
Total revenues	\$ 1,049,242	\$ 1,322,575	\$ 1,309,890	\$ 1,175,119
Gross profit	201,723	396,519	380,498	302,741
Operating earnings	112,301	298,896	288,104	196,430
Earnings from continuing operations	59,998	210,957	201,125	115,915
Net earnings	60,258	209,916	199,788	114,518
Basic earnings per share from continuing operations	\$ 0.45	\$ 1.59	\$ 1.52	\$ 0.87
Diluted earnings per share from continuing operations	\$ 0.45	\$ 1.58	\$ 1.51	\$ 0.87
Basic net earnings per share	\$ 0.45	\$ 1.58	\$ 1.51	\$ 0.86
Diluted net earnings per share	\$ 0.45	\$ 1.58	\$ 1.50	\$ 0.86

<i>in thousands, except per share data</i>	2019			
	<i>Three Months Ended</i>			
	<i>March 31</i>	<i>June 30</i>	<i>Sept 30</i>	<i>Dec 31</i>
Total revenues	\$ 996,511	\$ 1,327,682	\$ 1,418,758	\$ 1,186,152
Gross profit	191,675	370,502	400,643	293,081
Operating earnings	104,433	276,074	303,376	193,575
Earnings from continuing operations	63,935	197,907	218,066	142,595
Net earnings	63,299	197,558	215,713	141,092
Basic earnings per share from continuing operations	\$ 0.48	\$ 1.50	\$ 1.65	\$ 1.08
Diluted earnings per share from continuing operations	\$ 0.48	\$ 1.48	\$ 1.63	\$ 1.07
Basic net earnings per share	\$ 0.48	\$ 1.49	\$ 1.63	\$ 1.07
Diluted net earnings per share	\$ 0.48	\$ 1.48	\$ 1.62	\$ 1.06

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, 2020. 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, 2020.

Due to the COVID-19 pandemic, we have implemented remote work arrangements for support functions and restricted business travel effective mid-March 2020. To date, these arrangements have not materially affected our ability to maintain our business operations, including the operation of financial reporting systems, internal control over financial reporting, and disclosure controls and procedures. We are continually assessing the potential effects of the pandemic on the design and operating effectiveness of our internal control over financial reporting and if necessary, will take appropriate actions.

No material changes were made during the fourth quarter of 2020 to our internal control 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, 2020.

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, 2020. 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, 2020, 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, 2020, 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, 2020, of the Company and our report dated February 25, 2021, 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 25, 2021

None.

PART III

ITEM 10

DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

On or about March 29, 2021, we expect to file a definitive proxy statement with the Securities and Exchange Commission pursuant to Regulation 14A (our “2021 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 2021 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 2021 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 2021 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 2021 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 2021 Proxy Statement is incorporated herein by reference.

(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	68 - 69
Consolidated Statements of Comprehensive Income	70
Consolidated Balance Sheets	71
Consolidated Statements of Cash Flows	72
Consolidated Statements of Equity	73
Notes to Consolidated Financial Statements	74 -122

(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)	<u>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</u> ¹
Exhibit 3(b)	<u>Amended and Restated By-Laws of the Company (as amended through March 23, 2020) filed as Exhibit 3.1 to the Company's Current Report on Form 8-K filed on March 25, 2020</u> ¹
Exhibit 4(a)	<u>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</u> ¹
Exhibit 4(b)	<u>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</u> ¹
Exhibit 4(c)	<u>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</u> ¹
Exhibit 4(d)	<u>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</u> 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, filed as Exhibit 4(r) to the Company's Annual Report on Form 10-K filed on February 26, 2020.¹
- Exhibit 10(a) Second Amendment to Credit Agreement, dated April 10, 2020, among Vulcan Materials Company, each of the Guarantors, the Lenders party thereto, and Truist Bank successor by merger to SunTrust Bank, as Administrative Agent, filed as Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed on August 5, 2020.¹
- Exhibit 10(b) 364-Day Credit Agreement, dated April 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 April 13, 2020.¹
- Exhibit 10(c) 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(d) 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(e) 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(f) 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(g) The 2006 Omnibus Long-Term Incentive Plan of the Company filed as Appendix C to Legacy Vulcan Corp.'s 2006 Proxy Statement on Schedule 14A filed on April 13, 2006 ^{1,2}
- Exhibit 10(h) Amendment to the 2006 Omnibus Long-Term Incentive Plan of the Company filed as Appendix A to the Company's 2011 Proxy Statement on Schedule 14A filed March 31, 2011 ^{1,2}
- Exhibit 10(i) Amendment to the 2006 Omnibus Long-Term Incentive Plan of the Company dated February 9, 2012, filed as Exhibit 10(l) to the Company's Annual Report on Form 10-K for the year ended December 31, 2011 filed on February 29, 2012 ^{1,2}
- Exhibit 10(j) Restricted Stock Plan for Nonemployee Directors of the Company, as amended, filed as Exhibit 10.6 to the Company's Current Report on Form 8-K filed on December 17, 2008 ^{1,2}
- Exhibit 10(k) 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(l) 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(m) 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(n) 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(o) Supplemental Executive Retirement Agreement filed as Exhibit 10 to Legacy Vulcan Corp.'s Quarterly Report on Form 10-Q for the quarter ended September 30, 2001 filed on November 2, 2001 ^{1,2}
- Exhibit 10(p) Form of Stock Option Agreement filed as Exhibit 10(o) to Legacy Vulcan Corp.'s Report on Form 8-K filed on December 20, 2005 ^{1,2}
- Exhibit 10(q) Form of Director Deferred Stock Unit Agreement filed as Exhibit 10.9 to the Company's Current Report on Form 8-K filed on December 17, 2008 ^{1,2}
- Exhibit 10(r) Form of Performance Share Unit Agreement filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed on March 11, 2010 ^{1,2}
- Exhibit 10(s) Form of Performance Share Unit Agreement (2012) filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed on February 14, 2012 ^{1,2}
- Exhibit 10(t) Form of Stock-Only Stock Appreciation Rights Agreement filed as Exhibit 10(q) to Legacy Vulcan Corp.'s Report on Form 10-K filed on February 26, 2007 ^{1,2}
- Exhibit 10(u) Stock-Only Stock Appreciation Rights Agreement between the Company and John R. McPherson dated November 9, 2011, filed as Exhibit 10(a) to the Company's Current Report on Form 8-K filed on November 15, 2011 ^{1,2}
- Exhibit 10(v) Form of Employee Deferred Stock Unit Amended Agreement filed as Exhibit 10.7 to the Company's Current Report on Form 8-K filed on December 17, 2008 ^{1,2}
- Exhibit 10(w) 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(x)	<u>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</u> ^{1,2}
Exhibit 10(y)	<u>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</u> ^{1,2}
Exhibit 10(z)	<u>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</u> ^{1,2}
Exhibit 10(aa)	<u>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</u> ^{1,2}
Exhibit 10(bb)	<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</u> ^{1,2}
Exhibit 10(cc)	<u>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</u> ^{1,2}
Exhibit 10(dd)	<u>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</u> ^{1,2}
Exhibit 10(ee)	<u>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</u> ^{1,2}
Exhibit 10(ff)	<u>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</u> ^{1,2}
Exhibit 10(gg)	<u>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</u> ^{1,2}
Exhibit 21	<u>List of the Company's material subsidiaries as of December 31, 2020</u>
Exhibit 23	<u>Consent of Deloitte & Touche LLP, Independent Registered Public Accounting Firm</u>
Exhibit 24	<u>Powers of Attorney</u>
Exhibit 31(a)	<u>Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</u>
Exhibit 31(b)	<u>Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</u>
Exhibit 32(a)	<u>Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</u>
Exhibit 32(b)	<u>Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</u>
Exhibit 95	<u>MSHA Citations and Litigation</u>

Exhibit 101 The following financial information from this Annual Report on Form 10-K for the year ended December 31, 2020 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, 2020 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 25, 2021.

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 25, 2021
 Suzanne H. Wood	Senior Vice President and Chief Financial Officer (Principal Financial Officer)	February 25, 2021
 Randy L. Pigg	Vice President, Controller (Principal Accounting Officer)	February 25, 2021

The following directors:

Melissa H. Anderson	Director
Thomas A. Fanning	Director
O. B. Grayson Hall, Jr.	Director
Cynthia L. Hostetler	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 25, 2021

SUBSIDIARIES AS OF DECEMBER 31, 2020

	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
Arundel Company, LLC	Delaware	100
Atlantic Granite Company, LLC	South Carolina	100
Azusa Rock, LLC	Delaware	100
Black Point Aggregates, Inc.	Nova Scotia	100
Calizas Industriales del Carmen, S.A. de C.V.	Mexico	100
CalMat Co.	Delaware	100
Chem-Marine of South Carolina	South Carolina	100
DMG Equipment Company, LLC	Delaware	100
Florida Rock Industries, Inc.	Florida	100
Freeport Aggregates Limited	Bahamas	100
FRI Bahamas Ltd.	Bahamas	100
Harper Brothers, LLC	Delaware	100
Heritage Logistics, LLC	Delaware	100
Legacy Vulcan, LLC	Delaware	100
Maryland Rock Industries, LLC	Delaware	100
Maryland Stone, LLC	Delaware	100
McCartney Construction Company, Inc.	Alabama	100
Mideast Division Logistics, LLC	Delaware	100
Mountain West Logistics, LLC	Delaware	100
North American Recycling and Crushing, LLC	Delaware	100
Rancho Piedra Caliza, S.A. de C.V.	Mexico	100
Rapica Servicios Tecnicos Y Administrativos, S.A. de C.V.	Mexico	100
R. C. Smith Companies, LLC	Delaware	100
RECO Transportation, LLC	Delaware	100
S & G Concrete Company, LLC	Delaware	100
Salisbury Towing, LLC	Delaware	100
Servicios Integrales, Gestoria Y Administracion, S.A. de C. V.	Mexico	100
Shamrock Building Materials, LLC	Delaware	100
Soportes 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
TCS Materials, LLC	Delaware	100
Triangle Rock Products, LLC	Delaware	100
VGCM, B.V.	Netherlands	100
Virginia Concrete Company, LLC	Delaware	100
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
Vulca Shipping Company, Limited	Bahamas	100

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-223626 on Form S-3, Registration Statement No. 333-227903 on Form S-4 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 25, 2021, 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, 2020.

/s/ DELOITTE & TOUCHE LLP

Birmingham, Alabama

February 25, 2021

The undersigned director of Vulcan Materials Company, a New Jersey corporation, hereby nominates, constitutes and appoints Denson N. Franklin III and Elizabeth H. Townsend 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, 2020 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 12th day of February, 2021.

/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/ 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 25, 2021



J. Thomas Hill
Chairman, President and Chief Executive Officer

I, Suzanne H. Wood, 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 25, 2021



Suzanne H. Wood
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, 2020, 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 25, 2021

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, Suzanne H. Wood, 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, 2020, 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.



Suzanne H. Wood
Senior Vice President and Chief Financial Officer
February 25, 2021

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, 2020, 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 2020

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, 2020. Of our 264 active MSHA-regulated facilities during the year, we received 546 federal mine safety inspections at 234 facilities during the reporting period. Of our inspected facilities, 199 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)
ALABAMA SERVICE, AL	2	1	0	0	0	0	0.1	0	No
ANDERSON, SC	2	1	0	0	0	0	2.4	0	No
BARTLETT, IL	4	5	0	0	0	0	2.1	0	No
BLAIRSVILLE, GA	3	1	0	0	0	0	0.3	0	No
BROWNWOOD, TX	4	1	0	0	0	0	0.0	0	No
CALERA, AL	3	1	0	0	0	0	0.0	0	No
CHICO QUARRY, TX	3	1	0	0	0	0	0.0	0	No
COLUMBIA SED, SC	5	1	0	0	0	0	0.0	1	No
DANLEY, TN	3	2	0	0	0	0	0.7	0	No
DAYTON, TN	4	1	0	0	0	0	0.1	0	No
GOLD HILL, NC	3	1	0	0	0	0	0.0	0	No
GRAHAM VA, VA	3	3	0	0	0	0	5.0	0	No
GRAYSON, GA	3	1	0	0	0	0	0.0	0	No
HANOVER, PA	1	1	0	0	0	0	0.0	0	No
HUEBNER ROAD, TX	1	1	0	0	0	0	0.0	0	No
HUNTSVILLE NORTH, AL	2	2	0	0	0	1	0.0	0	No
LAGRANGE, GA	1	2	0	0	0	0	1.7	0	No
LARAWAY, IL	1	1	0	0	0	0	0.3	0	No
LEMONT, IL	4	1	0	0	0	0	0.0	0	No
MANASSAS, VA	3	1	0	0	0	0	0.4	0	No
MANTENO, IL	2	1	0	0	0	0	0.8	0	No
MCCOOK, IL	3	5	0	0	0	0	4.8	0	No
MIAMI, FL	4	2	0	0	0	0	0.7	0	No
NORTH TROY, OK	2	1	0	0	0	0	0.1	0	No
NORTON, VA	2	1	0	0	0	0	0.2	0	No
POSTELL QUARRY, GA	2	1	0	0	0	0	0.0	0	No
PRIDE, AL	1	1	0	0	0	0	0.3	0	No
RIVER ROAD, TN	3	1	0	0	0	0	0.0	0	No
SAN EMIDIO, CA	2	1	0	0	0	0	0.5	0	No
SHELBYVILLE, TN	2	1	0	0	0	0	0.0	0	No
SPICEWOOD, TX	2	1	0	0	0	0	0.0	0	No
TRINITY, AL	2	1	0	0	0	0	0.3	0	No
VILLA RICA, GA	3	1	0	0	0	0	0.1	0	No
WEATHERFORD, TX	2	1	0	0	0	0	0.0	0	No
WILSON CO, TN	3	1	0	0	0	0	0.3	0	No
OTHER OPERATIONS - 199	456	0	0	0	0	0	0.0	0	No
Total	546	49	0	0	0	1	21.2	1	

The total dollar value of proposed assessments received during the twelve months ended December 31, 2020 for all other citations, as well as proposed assessments received during the reporting period for citations previously issued, is \$49,442.

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, 2020.

Name of Operation	Number of Legal Actions		
	Contest Penalty	Contest Citations	Complaint of Discharge, Discrimination
BLAIRSVILLE QUARRY, GA	1	0	0
GRAHAM-VIRGINIA, VA	1	0	0
SOUTH RUSSELLVILLE QUARRY, AL	1	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, 2020.

Name of Operation	Number of Legal Actions		
	Contest Penalty	Contest Citations	Complaint of Discharge, Discrimination
BARTLETT UNDERGROUND QUARRY, IL	2	0	0
JACK PLANT, VA	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, 2020.

Name of Operation	Number of Legal Actions		
	Contest Penalty	Contest Citations	Complaint of Discharge, Discrimination
115 QUARRY, NC	1	0	0
BLACK ANGUS PLANT, AZ	1	0	0
BOONE QUARRY, NC	1	0	0
COOKEVILLE QUARRY, TN	1	0	0
FREDERICK QUARRY, VA	1	0	0
GRAHAM-VIRGINIA, VA	3	0	0
HANOVER QUARRY, PA	2	0	0
HAVRE DE GRACE QUARRY, MD	1	0	0
MANASSAS, VA	1	0	0
MIAMI QUARRY, FL	1	0	0
RIVER ROAD QUARRY, TN	1	0	0
SKIPPERS, VA	1	0	0