

FOUNDATION & TRANSFORMATION & VALUE

Analyst & Investor Day | On Location

May 10, 2016 Dallas, Texas www.martinmarietta.com



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Non-GAAP Financial Terms

These slides contain certain "non-GAAP financial terms" which are defined in the Appendix. Reconciliations of non-GAAP terms to the closest GAAP term are also provided in the Appendix.



AGENDA

- Safety Update
- ♦ Foundation. Transformation. Value.
- **Cement Division Foundation**
- **Cement Transformation Process Rock to Cement**
- **Conclusion Driving Value**





Safety Statistics – Cement Division

	YTD 2016 ¹	2015	2014	
TIIR	0.7	1.6	2.6	
LTIR	0.0	0.2	0.7	
Lost Time Incidents	0	1	4	
Reportable Incidents	1	12	15	





¹ As of April 30, 2016









MARTIN MARIETTA

driving operational excellence against the right strategic plan;

AGENDA

- Safety Update
 - Foundation. Transformation. Value.

Cement Division Foundation

Cement Transformation Process – Rock to Cement

Conclusion – Driving Value





Cement Division Foundation







Cement Division Foundation | Midlothian Cement Plant



S	Select Midlothian Met	trics
Current Rated Cl	inker	>2.1 mm tons
Permitted Clinke	er Capacity	>2.5 mm tons
Owned Reserve	Life	>50 years
Plant Headcount		179 people





Cement Division Foundation | Location

Texas significantly outperforming in cement consumption







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Transformational | Cement Chemistry 101 - Compounds

	Compound	Components	Industry Short
-	Tricalcium silicate	$(CaO)_3 + SiO_2$	C ₃ S
I	Dicalcium silicate	$(CaO)_2 + SiO_2$	C ₂ S
-	Tricalcium aluminate	$(CaO)_3 + Al_2O_3$	СзА
-	Tetracalcium aluminoferrite	$(CaO)_4 + Al_2O_3 + Fe_2O_3$	C4AF

Compound	Mass %	Industry Shorth
Calcium oxide, CaO	61-67%	С
Silicon dioxide, SiO2	19-23%	S
Aluminum oxide, Al2O3	2.5-6%	Α
Ferric oxide, Fe ₂ O ₃	0-6%	F
Sulfur Trioxide, SO ³	1.5-4.5%	S









Transformational | Cement Chemistry 101

Cement chemists use the **oxide** of an element when reporting a chemical analysis

Element	Oxide
Calcium	CaO
 Silica	SiO ₂
Aluminum	Al ₂ O ₃
Iron	Fe ₂ O ₃





Transformational | Cement Production Process



- (1)Limestone and other raw materials are quarried
- (2) Raw materials are ground and blended
- Raw materials are heated to 2,850° F in a kiln (3)

4 Heat transforms the materials into pellets of "clinker" (5) Clinker is ground with gypsum into a fine gray powder to make cement Cement is stored and shipped via truck, rail, or water 6



Transformational | Raw Vertical Roller Mill







Transformational | Preheater Tower



- Pre-blended, powder-sized raw material is conveyed to the top of a 400-foot preheater tower.
- As the material falls through the tower, it increases in temperature from 70°F to 1650°F.
- From 1100°F to 1650°F, the limestone in the blend of raw materials is subjected to "calcination".

				Calcinat	tion
CaCO ₃	+	heat	\rightarrow	CaO +	CO
Limestone			Ca	lcium Oxide	Carb

Calcium Oxide (CaO) enters the kiln and Carbon Dioxide (CO2) exits the plant as "stack gas".



on Dioxide

Transformational | Kiln



Transformational | Typical Clinker Cooler





Transformational | Clinker Cooler





14 grates wide by 82 rows long

Transformational | Finish Mill

other materials to produce cement





Transformational | Storage and Distribution





Transformational | Pollution Control Devices

- Main baghouse
- Alkali baghouse
- Sulphur scrubber
- RTOs
 (Regenerative Thermal Oxidizers)
- Additional dust collectors
- Water sprays for fugitive dust





Transformational | Control Room at Midlothian Cement Plant







Transformational | Cement Production Cost Profile







Transformational | Alternative Fuels Example





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Cement Division Financial Overview



*2015: Results are based on external sales only and include the CA operation for 9 months of the year





Questions







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