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(citing R.I. 198 (TZMI, "TiO₂ Pigment Supply/Demand," Nov. 2017)).

B. The Transacting Companies.

1. Tronox, Ltd.

Tronox, Ltd. is a public company traded on the New York Stock Exchange (TR).

Tronox's corporate headquarters are in Stamford, Connecticut, and it is registered to do business under the laws of Australia. Tronox manufactures pigment at three plants: Hamilton (Mississippi), Kwinana (Australia), and Botlek (The Netherlands). Tronox also conducts mining and other feedstock operations to supply its pigment plants, as follows: at the KwaZulu-Natal Sands operation (South Africa), Tronox mines mineral sands and operates a smelter complex to produce titanium slag; at the Namakwa Sands operation (South Africa), Tronox mines mineral sands and operates a smelter complex to produce titanium slag; and at the Western Australia operation, Tronox mines mineral sands and refines ilmenite to produce synthetic rutile.⁸

Overall, Tronox is long on feedstock. Tronox's mining facilities produce more feedstock than the company's TiO₂ manufacturing facilities can use. As a result, Tronox sells some of its feedstock to other TiO₂ manufacturers. Many manufacturers, however, prefer to source their feedstock from non-competitor suppliers because in the event of shortage, a competitor supplier will prioritize its own needs. As a result, during some time periods, Tronox experiences decreased feedstock demand and is left with unused feedstock capacity.⁹

2. Cristal, Ltd.

The National Titanium Dioxide Company Ltd. (hereafter, "Cristal"), is a privately held company registered under the laws of the Kingdom of Saudi Arabia. The National Industrialization Company ("TASNEE") is a joint stock company registered under the laws of the Kingdom of Saudi Arabia. TASNEE owns 79% of Cristal. Cristal USA, Inc. is a wholly owned

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subsidiary of Cristal through which Cristal conducts its business activities in the United States. Cristal operates TiO₂ pigment manufacturing facilities on five continents: Ashtabula I (Ohio), Ashtabula II (Ohio), Yanbu (Saudi Arabia), Stallingborough (United Kingdom), Bunbury (Australia), Bahia (Brazil), Tikon (China), and Thann (France). Cristal mines feedstock in Brazil and Australia. Cristal's mines yield very little high-grade feedstock.

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cyclical pricing is well recognized in the industry. Price cycles typically last between 18 and 60 months and proceed in phases, with a peak consisting of accelerating price increases and strong sales volumes, and a trough characterized by falling prices as customers with large accumulated inventories purchase less TiO₂.¹⁹

Even at the peak of a price cycle, however, margins in the industry are thin.²⁰ Thin margins are caused by several factors: (1) the commodity nature of TiO₂ in most applications; (2) producers' relatively high fixed costs; and (3) structural impediments that prevent TiO₂ producers from matching supply to demand.²¹ High fixed costs place a premium on increasing plant utilization, which is a primary financial goal in the industry.²² Achieving higher utilization rates dilutes fixed costs and allows producers to reduce prices.²³ Low utilization rates are not economically feasible; raising utilization rates has a significant positive effect on profitability.²⁴

As a cyclical industry that suffers deep demand troughs and enjoys thin margins even in the best of times, TiO₂ production is highly competitive.

LEGAL STANDARD

Section 7 of the Clayton Act prohibits a corporation from acquiring another where "the effect of such acquisition may be substantially to lessen competition, or to tend to create a monopoly." 15 U.S.C. § 18. In a case challenging a transaction under the Clayton Act, Complaint

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Chemours exports [REDACTED] from the United States, which is more than the entire production of any one single plant.³³

Tronox's competitors also acknowledge imports as a source of competition against their products and prices. [REDACTED]

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TiO₂ producers in every region of the world, including North America, supply their products globally. Trade flows in and out of North America amply demonstrate that the North American market does not operate in isolation. The sum of all imports to and exports from North America each year is greater than total North American TiO₂ consumption.³⁷ In particular, imports account for nearly a quarter of TiO₂ consumption in North America,³⁸ while at most of the TiO₂ produced in North America is shipped to customers in North America to stay in the region.³⁹ Moreover, the amount of TiO₂ imported to North America is rising year by year. In 2010, imported TiO₂ accounted for [REDACTED] of North American consumption, but by 2016, that number had risen to [REDACTED] of North American consumption.⁴⁰ This substantial increase in exports is discrediting [REDACTED]

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For more information about the study, please contact Dr. Michael J. Hwang at (319) 356-4530 or via email at mhwang@uiowa.edu.

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For more information about the study, please contact Dr. Michael J. Hwang at (310) 206-6500 or via email at mhwang@ucla.edu.

For more information about the study, please contact Dr. John P. Morrissey at (214) 648-5000 or via email at john.morrissey@utdallas.edu.

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ANSWER The answer is 1000. The first two digits of the number are 10, so the answer is 1000.

Customer-specific pricing information confirms that prices equilibrate across regions because producers can choose to purchase TiO₂ globally and use that reality as leverage when negotiating price. For example, large, multinational paint companies have significant buying power when purchasing from TiO₂ manufacturers and [REDACTED]

[REDACTED]⁵⁸ Customers are also encouraging increasing imports from China into North America to expand customers' buying power in negotiations with North American producers. The globalizing price pressures at work in the TiO₂ market are only increasing as a result of significant market consolidation due to mergers and acquisitions among leading TiO₂ customers. This globalization is forcing [REDACTED]

[REDACTED]⁵⁹ TiO₂ trade flows outside of North America also affect available supply within North America, further demonstrating the global reality of the TiO₂ market. When Chinese exports supply customers that had been previously supplied by TiO₂ produced in North America, the result is additional product in North America [REDACTED]

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3. In the United States/Canada geographic market, a hypothetical monopolist would not be able to impose a SSNIP.

Applying the hypothetical monopolist test to Complaint Counsel's so-called North American (United States/Canada) geographic market reveals that the market is not properly defined. North American customers have the incentive and ability to turn to the significant quantities of TiO₂

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Id. (quoting customers' views on switching)

⁸⁴ ETC Draft Trial Run 27/7/79

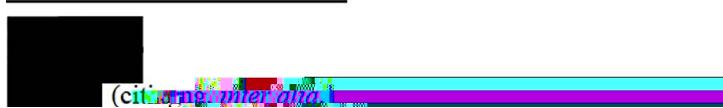
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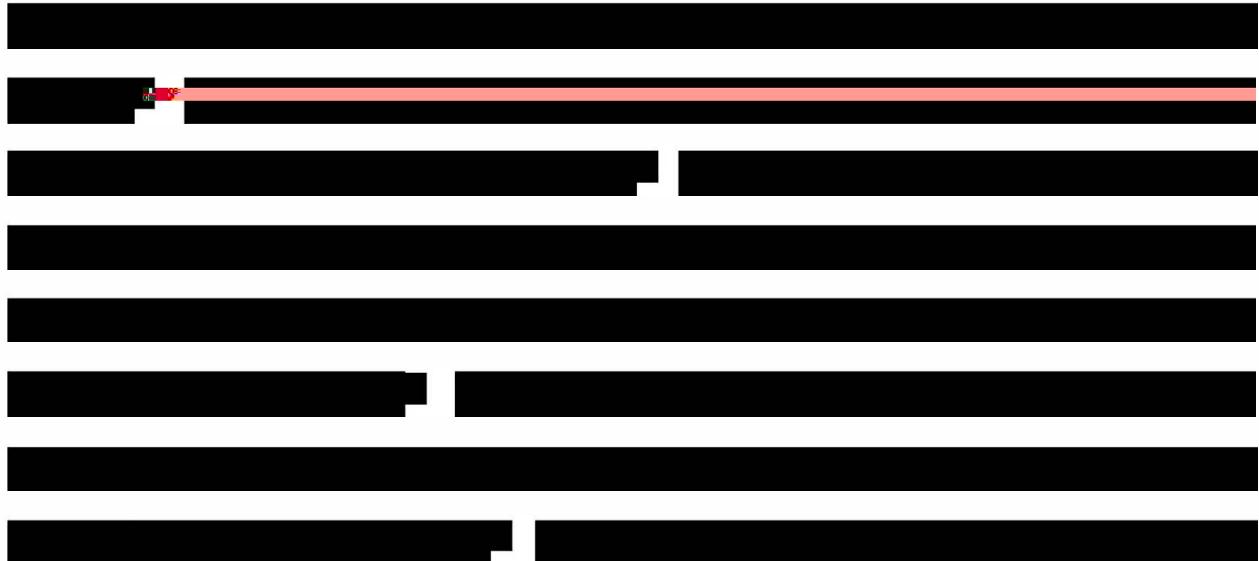
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1. The economics of TiO₂ production incentivize operating at peak capacity to maximize efficiency.

The TiO₂ industry bears exceptionally high fixed





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is already contributing financially, technically, and operationally to bring the Jazan slagger into operation.¹²² Tronox will loan up to \$125 million to facilitate slagger start-up. Successfully initiating production at the Jazan slagger will inject approximately [REDACTED] of additional high-grade feedstock into the combined company's feedstock supply.¹²³ This quantity of high-grade feedstock would be enough to feed the annual needs of the world's largest most productive TiO₂ production facility.¹²⁴ Tronox has conducted in-depth diligence in developing its plan to repair the Jazan slagger.¹²⁵

3. The combined company will further reduce fixed costs through operating rates.

The combined company will further reduce fixed costs by increasing its operating rates through implementing Tronox's established, proven best practices.

Historically, Cristal's Yanbu (Saudi Arabia) pigment plant has operated well below nameplate capacity.¹²⁶ Despite attempts to expand Yanbu's capacity, Cristal has been persistently unable to address existing bottlenecks and other challenges that limit operations at Yanbu.¹²⁷ Tronox, however, is uniquely positioned to improve operations at Yanbu because the facility runs on technology owned by Tronox's former parent company, Kel-McGee, and Tronox operates that same technology to great success at its Hamilton (Mississippi) pigment plant.¹²⁸ Since 2012, on average, Yanbu operates at [REDACTED] of nameplate capacity, while Hamilton operates at [REDACTED] of

¹²² [REDACTED]

¹²³ [REDACTED]

¹²⁴ [REDACTED]

¹²⁵ [REDACTED]

¹²⁶ [REDACTED]

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¹²⁸ [REDACTED]

; R 0105 (TZMI, "Global TiO₂ Pigment Producers

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B. China Is A Powerful New Market Entrant And Is Rapidly Gaining Share Of
North American Sales

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tern supply contract established to further collaboration between Lomon Billions and PPG, Lomon Billions built a chloride plant in Henan China using technology provided by PPG.¹⁴² Beginning in December 2015, PPG started using chloride

[REDACTED]

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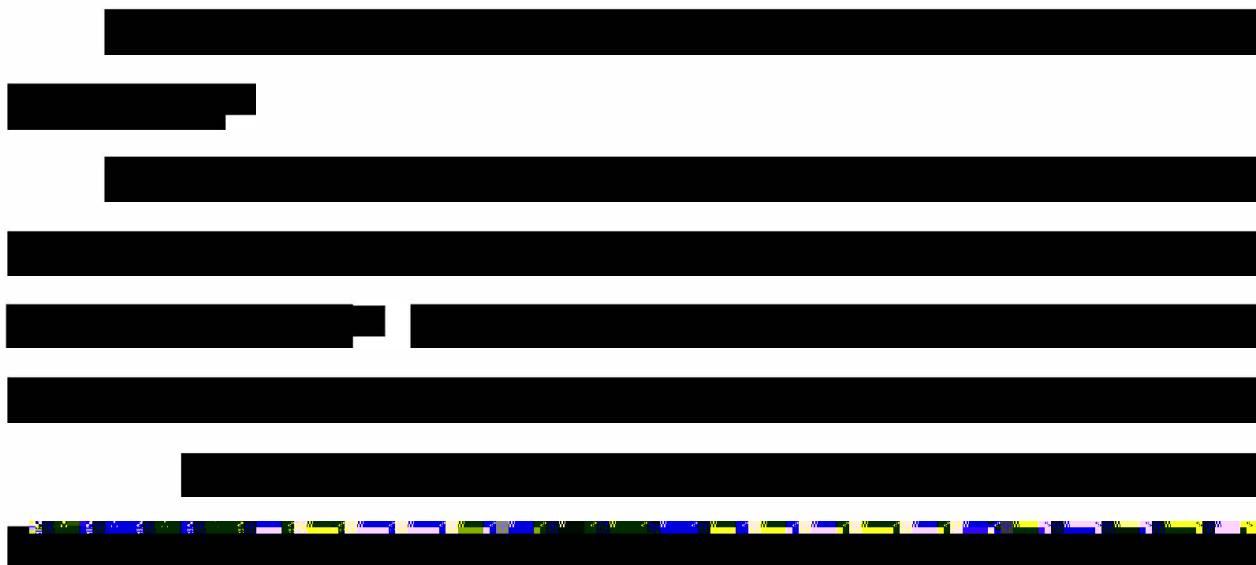
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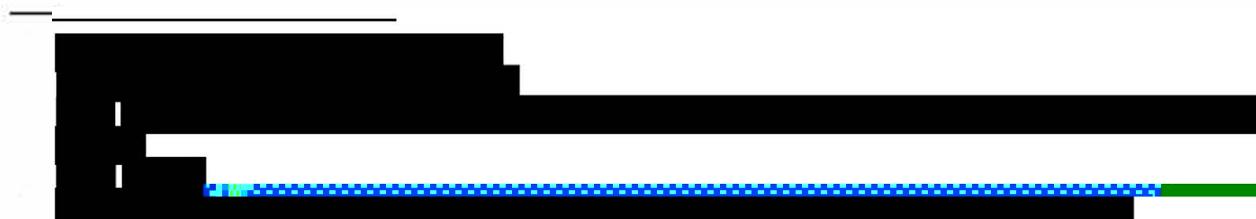
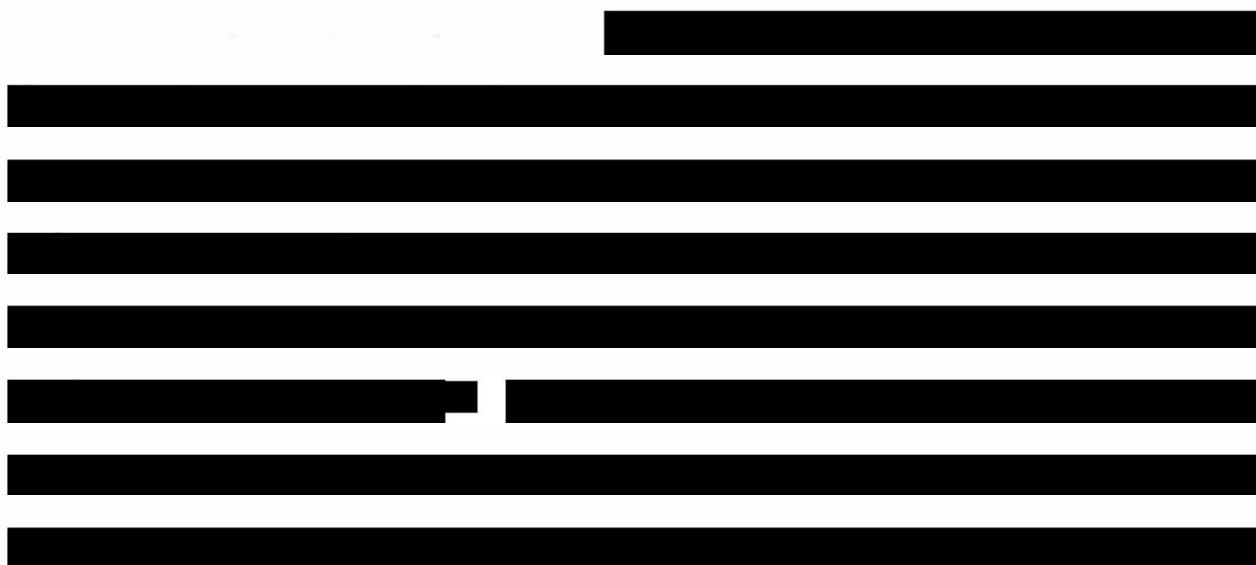
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3. Dr. Hill's economic modeling, when performed correctly, does not show that the combined company could profitably decrease production unilaterally.

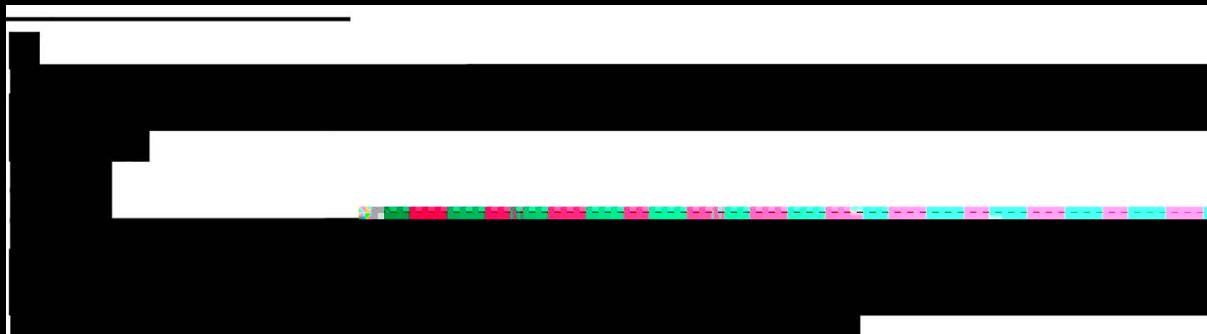
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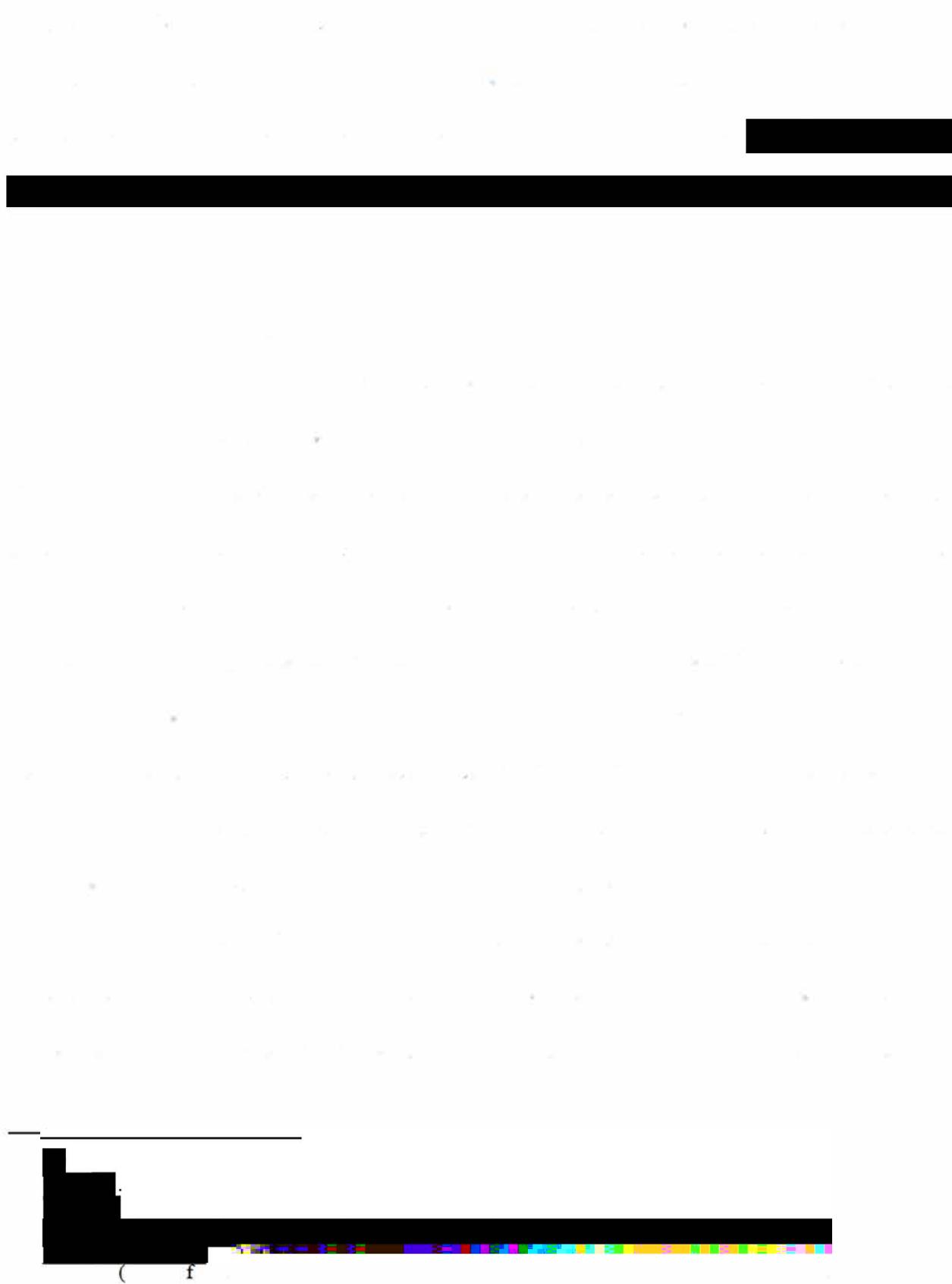
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digits, and profits were plummeting into negative territory. Indeed, at the worst times in the downward cycle, Tronox's financial outlook eerily resembled its condition around the time when it declared

It declared [REDACTED]

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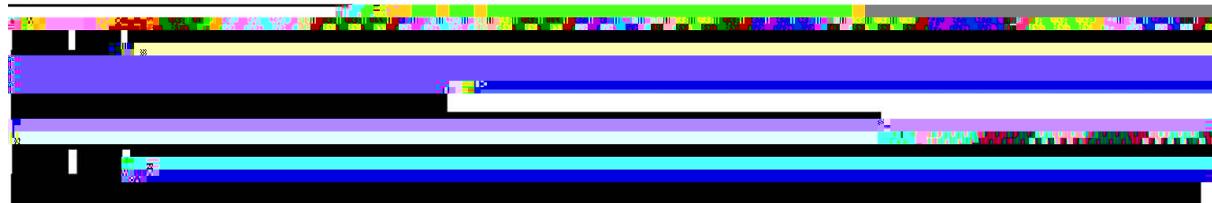
© 2017 Pearson Education, Inc.

ANSWER The answer is 1000. The first two digits of the number are 10, so the answer is 1000.



[REDACTED] 191 | [REDACTED]

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196

[REDACTED].¹⁹⁷ These widely used contract provisions leave substantially all of the risk created by fluctuations in TiO₂ prices on the producers, not the customers.

These large and powerful customers are successful in negotiating vigorously to lower prices, and pitting competitors against each other, because producers must keep their plants running "full-out" to maximize profitability. Thus, even small reductions in sales can put severe financial strain on producers.

Ordinary course documents from Respondents and non-parties are replete with instances of TiO₂ producers engaging in intense competition for customers.¹⁹⁸ Competition for Respondents' business comes not just from "Western" producers-Chemours (formerly DuPont), Venator (formerly Huntsman), and Kronos-but also from other global producers such as Lomon Billions and ISK, as well as other Chinese producers. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

2 Price announcements are a legitimate part of the competitive process.

Complaint Counsel cites producers' public price increase announcements, some of which occurred close in time and were similar in amount, as evidence that TiO₂ producers tacitly

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TiO₂ customers also flex their buying power by sponsoring entry and expansion. •

[REDACTED]

[REDACTED]

[REDACTED]

The countervailing buying power of customers is only growing stronger, as evidenced by recent consolidation amongst Respondents' downstream customers.²¹⁰

Customers can insulate themselves from the volatility of the TiO₂ price cycle by stockpiling product, which further exacerbates price volatility for TiO₂ producers. To hedge against variance in TiO₂ prices over time, and because TiO₂ is easily shipped and can be stored for long periods without spoilage, customers will often buy excess TiO₂ to store as inventory in anticipation of price peaks. When customers sense demand is waning, they "de-stock," or start releasing their TiO₂ inventories, and stop buying TiO₂, which sends price on a downward cascade.²¹¹

In sum, customers' countervailing buying power also shows the competitive vitality of the TiO₂ market, which makes Complaint Counsel's coordination theory all the more implausible when tested against the realities of the TiO₂ marketplace.

4. TiO₂ suppliers have different incentives and cost structures, which makes coordination extremely difficult and highly unlikely.

Each producer's incentives are unique to its particular circumstances, making aligning those incentives through coordination difficult or impossible. Although TiO₂ producers sell similar products, their methods and the costs of producing TiO₂ products differ dramatically from

²⁰⁹ RX 0229 (Ex. 15, 2015 PPG Press Release, "PPG Begins Using Chloride-Based TiO₂ from Henan Billions in Coatings Production") at 1.

²¹⁰ [REDACTED]

²¹¹ [REDACTED]

producer to producer. Specifically, TiO₂ producers have a diversity of (1) cost positions and (2) scales of operations, such as capacity and production. This wide diversity of incentives among competing producers, both globally and within North America, facilitates the ability of competitors even to reach terms of agreement for a coordinated scheme, much less to monitor performance under or enforce any agreement.²¹²

The cost of producing TiO₂ differs substantially across producers, as well as across different plants operated by any given producer. As a result, each producer has a different optimal price for a given product, so any one price is unlikely to satisfy the interests of each competitor.²¹³ These cost points are also quite volatile, requiring individual producers to adjust price regularly to account for changing costs. The degree to which producers are sensitive to shifts in different types of costs varies widely from producer to producer. Even if suppliers could reach an agreement on pricing or quite

the market for TiO₂ is highly competitive, with many producers and importers competing for market share. The market is characterized by low barriers to entry, as new producers can easily enter the market by establishing new plants or by expanding existing ones. The market is also characterized by high levels of competition, as producers are constantly trying to find ways to reduce costs and increase efficiency. The market is also characterized by high levels of volatility, as prices can fluctuate significantly over time due to changes in supply and demand.

[REDACTED]

pricing and the lack of transparency regarding production decisions. TiO₂ pricing is not published. Rather, TiO₂ pricing is the result of individualized negotiations between a producer and a customer, and the price of a given product at a gF

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244 RX0199 (Aug. 19, 2010 Horizontal Merger Guidelines)

245 Source: PwC (21 Aug. 10, 2015 Guide to Antitrust Law (Part 1))

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I hereby certify that on May 16, 2018, I served via other means, as provided in 4.4(b) of the foregoing Respondents Pre-Trial Brief, upon:

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