



DIVISION OF  
CORPORATION FINANCE

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549-4631

Mail Stop 4631

October 18, 2010

**via U.S. mail and facsimile**

Pablo Brizzio, CFO  
Ternium S.A.  
46a, Avenue John F. Kennedy – 2<sup>nd</sup> Floor  
L-1855 Luxembourg

**RE: Ternium S.A.  
Form 20-F for the Fiscal Year Ended December 31, 2009  
Filed June 30, 2010  
File No. 1-32734**

Dear Mr. Brizzio:

We have reviewed your response letter dated October 1, 2010, and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by providing the requested information or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing the information you provide in response to these comments, we may have additional comments.

4 Accounting policies, page 15

(6) Useful Lives and Impairment of Property, Plant and Equipment and Other Long-Lived Assets, page 27

1. We note the draft disclosures you intend to include in future filings in response to comment 9 in our letter dated September 7, 2010. Please revise this draft disclosure to also clarify for investors that you do not believe it is reasonably possible that you will recognize a material impairment charge in future filings, as noted in your response and if correct.

11 Income tax expense, page 32

2. We note your response to comment 12 in our letter dated September 7, 2010. As previously requested, please disclose the basis on which the tax rate was computed, as required by paragraph 81(c) of IAS 12.

22 Allowances – current, page 37

3. We note the draft disclosure you intend to include in future filings in response to comment 15 in our letter dated September 7, 2010. It is unclear how your explanation fully explains the US\$65.6 million reversal of the obsolescence allowance for fiscal year 2009. Please revise your draft disclosure to provide investors with a better understanding as to the specific facts and circumstances that resulted in the reversal of the obsolescence allowance recognized for inventory currently on hand. Please provide us with the revisions to your draft disclosure.

25 Derivative financial instruments, page 40

4. We note the draft disclosure you intend to include in future filings in response to comment 17 in our letter dated September 7, 2010. As previously requested, please disclose in future filings the following for all of your interest rate swaps and for all of your foreign exchange contracts for each period presented:
  - The gross amount recognized in other comprehensive income for the change in fair value.
  - The gross amount reclassified from other comprehensive income to profit or loss in the consolidated income statements.
  - The gross amount remaining in accumulated other comprehensive income, including an understanding as to when you expect the remaining amounts to be reclassified to profit or loss in the consolidated income statements. For example, we note that you disclosed that USD 46.7 million is in accumulated other comprehensive income for your interest rate contracts. However, it is unclear whether this is profit or a loss and when you expect this amount to be reclassified to the consolidated income statements.

Please refer to paragraph 23 of IFRS 7 for guidance. Please provide us with the disclosures you intend to include in future filings.

29 Discontinued operations, page 46

(ii) Nationalization of Sidor, page 46

5. We note the disclosure you intend to include in future filings in response to comment 20 in our letter dated September 7, 2010, related to the 14.36% discount rate. Please disclose the yield of the Venezuelan sovereign debt with maturities similar to the

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receivable but governed by New York law to better allow investors to understand the benchmark used to arrive at the discount rate used.

6. Please provide us with your calculations for the US\$136 million gain recognized for the accretion of the receivable to present value. In this regard, it is unclear why the majority of the US\$188 million discount for the time value of money was recognized during fiscal year 2009 when the receivable was outstanding for eight months in fiscal year 2009 as compared to 11 months in fiscal year 2010, and when the majority of the receivable will be paid during fiscal year 2010 (~US\$1.02 billion) as compared to the amount paid during fiscal year 2009 (~US\$554 million).

You may contact Tracey Houser, Staff Accountant, at (202) 551-3736, or in her absence, Jeanne Baker, Assistant Chief Accountant, at (202) 551-3691, or me at (202) 551-3355, if you have questions regarding comments on the financial statements and related matters.

Sincerely,

Terence O'Brien  
Accounting Branch Chief