Ternium S.A. Form 6-K April 25, 2012

FORM 6 - K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Report of Foreign Private Issuer

Pursuant to Rule 13a - 16 or 15d - 16

of the Securities Exchange Act of 1934

As of 4/25/2012

Ternium S.A.

(Translation of Registrant s name into English)

Ternium S.A. 29, Avenue de la Porte-Neuve

L-2227 Luxembourg

(352) 2668-3152

(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover Form 20-F or 40-F.

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Form 20-F x Form 40-F "

Indicate by check mark whether the registrant by furnishing the information contained in this Form is also thereby furnishing the information to the Commission pursuant to Rule 12G3-2(b) under the Securities Exchange Act of 1934.

Yes " No x

If Yes is marked, indicate below the file number assigned to the registrant in connection with Rule 12g3-2(b):

Not applicable

The attached material is being furnished to the Securities and Exchange Commission pursuant to Rule 13a-16 and Form 6-K under the Securities Exchange Act of 1934, as amended.

This report contains Ternium S.A. s press release announcing first quarter 2012 results.

SIGNATURE

Pursuant to the requirements 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.

TERNIUM S.A.

By:/s/ Pablo BrizzioName:Pablo BrizzioTitle:Chief Financial OfficerDated:April 25, 2012

By:/s/ Daniel NovegilName:Daniel NovegilTitle:Chief Executive Officer