UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): August 31, 2011



MATTSON TECHNOLOGY, INC.

(Exact name of Registrant as specified in its charter)

Delaware (State or Other Jurisdiction of Incorporation) 000-24838 (Commission File Number) 77-0208119 (I.R.S. Employer Identification Number)

47131 Bayside Parkway Fremont, California 94538

(Address of principal executive offices, including zip code)

(510) 657-5900

(Registrant's telephone number, including area code)

Not Applicable

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

□ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 5.02. Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.

(b) Departure of a Principal Officer

On August 31, 2011, Andy Moring announced his planned departure as Executive Vice President - Finance, Chief Financial Officer and Secretary of Mattson Technology, Inc. ("Mattson Technology"), to be effective upon the hiring of a new chief financial officer or, if earlier, December 31, 2011.

(e) Entry into Material Compensatory Arrangements with Named Executive Officers

On August 31, 2011, Mattson Technology entered into a Transition Agreement and Release with Andy Moring, Executive Vice President – Finance, Chief Financial Officer and Secretary.

Under the agreement and provided Mr. Moring does not revoke his acceptance of the terms of the agreement, Mr. Moring will continue his employment with Mattson Technology on a transition employment status until his employment terminates on December 31, 2011, subject to either party's earlier termination. During the transition period, Mr. Moring will continue to receive his current salary, continued vesting of stock options and restricted stock unit awards and health benefits. Mr. Moring's agreement specifies that subject to certain conditions, after December 31, 2011, he will receive (i) a lump sum equivalent to a one year base salary, for a total of \$290,000; (ii) acceleration of all of his remaining unvested stock options so that they will fully vest on January 1, 2012, and will remain exercisable for 12 months; (iii) reimbursement of COBRA coverage expenses for six months; and (iv) if applicable for 2011 performance, a bonus to be determined by the board of directors of Mattson Technology. Under the agreement, Mr. Moring's previous change of control agreement with Mattson Technology, dated as of May 25, 2011, is superseded and cancelled by the terms of this new agreement.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits

Exhibit Description

99.1 September 1, 2011 Press Release by Mattson Technology, Inc.

SIGNATURES

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 hereunto duly authorized.

Date: September 1, 2011

Mattson Technology, Inc.

By: /s/ David Dutton

David Dutton President, CEO