



THE EXPLORATION EQUIPMENT SUPPLIER

February 24, 2011

VIA EDGAR AND FACSIMILE

Mr. John Cash
Branch Chief
Securities and Exchange Commission
Division of Corporation Finance
100 F Street, NE
Washington, D.C. 20549

**Re: Mitcham Industries, Inc.
Form 10-K for the year ended January 31, 2010 filed April 19, 2010
Form 10-Q for the quarter ended October 31, 2010 filed December 8, 2010
File No. 0-25142**

Dear Mr. Cash:

On February 18, 2011, Mitcham Industries, Inc. (the "Company") received the comments of the staff of the Division of Corporation Finance (the "Staff") of the Securities and Exchange Commission (the "Commission") to the Company's response to the Staff's letter dated February 8, 2011, all related to Form 10-K for the fiscal year ended January 31, 2010 (the "2011 Form 10-K") and Form 10-Q for the quarter ended October 31, 2010 (the "Form 10-Q").

The following responses are for the Staff's review. For your convenience we have repeated each comment of the Staff exactly as given in the Staff's comment letter.

Form 10-K for the year ended January 31, 2010

Critical Accounting Policies

Goodwill and Other Intangible Assets, page 34

We have read your response to prior comment one of our letter dated February 8, 2011. Please clarify how you have determined that Seamap UK and Seamap Singapore are not operating segments as defined in ASC 280-10-50-1. In this regard, please specifically confirm, if true, that your chief operating decision maker does not receive and regularly review each subsidiary's operating results to make decisions about resources to be allocated to the subsidiary and assess its performance.

MITCHAM INDUSTRIES, INC.
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We confirm that our chief operating decision maker, who, in our case, is our Chief Executive Officer, makes decisions about resource allocation and assesses the performance of our Seemap segment based upon the combined operating results of Seemap UK and Seemap Singapore. Accordingly, the combined operations of Seemap UK and Seemap Singapore constitute a single operating segment, our Seemap segment, as defined in ASC Topic 280-10-50-1.

Periodic reports containing disaggregated information are prepared, but these reports are utilized for a variety of other purposes such as tax and cash flow planning and analysis. The preparation of this disaggregated information does not preclude the treatment of the combined operations as a single operating segment, as indicated by ASC Topic 280-10-50-6. In this regard, we note the following:

- The nature of the operations of each component is essentially identical. Please refer to our response to comment no. 1 in our letter dated February 15, 2011.
- A single manager is responsible for both components.
- Disaggregated information about the individual components is not presented to our Board of Directors.

Should the Staff have any questions or comments, please contact the undersigned at 281.353.4475.

Very truly yours,

MITCHAM INDUSTRIES, INC.

By: /s/ Robert P. Capps

Robert P. Capps
Executive Vice President and Chief Financial Officer

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