



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

DIVISION OF  
CORPORATION FINANCE

February 8, 2011

Mitcham Industries, Inc.  
Robert P. Capps, Executive Vice President – Finance and Chief Financial Officer  
8141 SH 75 South  
P.O. Box 1175  
Huntsville, TX 33742

**Re: Mitcham Industries, Inc.  
Form 10-K for the year ended January 31, 2010 filed April 9, 2010  
Form 10-Q for the quarter ended October 31, 2010 filed December 8, 2010  
File No. 0-25142**

Dear Mr. Capps:

We have reviewed your response to our letter dated January 19, 2011 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.

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

Critical Accounting Policies

Goodwill and Other Intangible Assets, page 34

1. We note your response to comment four of our letter dated January 19, 2011. You indicate that you have identified your Seamap reportable segment as your reporting unit. However, as noted on page one of your Form 10-K, your Seamap reportable segment is comprised of two operating segments, Seamap UK and Seamap Singapore. As such, it is unclear to us how you have appropriately identified your reporting units pursuant to ASC Topic 350-20-35. Refer also to Topic 350-20-35-33 through 35-46. In this regard, we note that a reporting unit is an operating segment or one level below an operating segment (also known as a component). Please reassess the appropriateness of the level at which you assessed goodwill for impairment.

Mr. Robert P. Capps  
Mitcham Industries, Inc.  
February 8, 2011  
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Notes to the Consolidated Financial Statements

11. Income Taxes, page F-15

2. Please revise the disclosures you have proposed in response to prior comment five of our letter dated January 19, 2011 to clarify that you have recorded a deferred tax asset related to the Canadian net operating losses which has been offset your tax liability related to uncertain tax positions.

Form 10-Q for the quarter ended October 31, 2010

Notes to the Condensed Consolidated Financial Statements

4. Acquisitions, page 4

3. Please include the information you have provided to us in response to prior comment seven of our letter dated January 19, 2011 in your future disclosures.

6. Balance Sheet, page 6

4. We have read your response to comment eight of our letter dated January 19, 2011. Please specifically tell us whether you performed an impairment test of the assets you were repossessing at October 31, 2010. If not, please tell us why no such test was necessary. Please also tell us whether you have recorded or will need to record any additional impairment upon the repossession of those assets in December 2010. If so, please quantify the impairment charge and address why no such impairment was required as of October 31, 2010. Additionally, please provide to us your proposed disclosures for your Form 10-K for the year ended January 31, 2011.

You may contact Mindy Hooker at (202) 551-3732, Jeanne Baker at (202) 551-3691 or me at (202) 551-3768 with any questions.

Sincerely,

John Cash  
Branch Chief