

ALEXCO RESOURCE CORP  
Form 6-K  
February 10, 2010

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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

**FORM 6-K**

**REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16  
UNDER THE SECURITIES EXCHANGE ACT OF 1934**

For the month of **February, 2010**

Commission File Number: **001-33621**

**ALEXCO RESOURCE CORPORATION**

(Translation of registrant's name into English)

**Suite 1150-200 Granville Street  
Vancouver, British Columbia, Canada V6C 1S4**  
(Address of principal executive offices)

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

[        ] Form 20-F [ x ] Form 40-F

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): [        ]

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): [        ]

Indicate by check mark whether by furnishing the information contained in this Form, the registrant 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): 82-  
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**SUBMITTED HEREWITH**

Exhibits

99.1 Financial Statements For the Three Month And Six Month Periods Ended December 31, 2009

99.2 Management's Discussion and Analysis For the Period Ended December 31, 2009

99.3 CEO Certification

99.4 CFO Certification

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**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, thereunto duly authorized.

**ALEXCO RESOURCE CORP.**  
(Registrant)

Date: February 10, 2010

By: */s/ David E. Whittle*  
David E. Whittle  
Chief Financial Officer

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