



DIVISION OF
CORPORATION FINANCE
MAIL STOP 7010

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-7010

May 16, 2007

Mr. Earl R. Wait
Vice President - Accounting
Natural Gas Services Group, Inc.
2911 South County Road 1260
Midland, Texas 79706

Re: Natural Gas Services Group, Inc.
Form 10-K for Fiscal Year Ended December 31, 2006
Filed March 15, 2007
Form 10-Q for Fiscal Quarter Ended March 31, 2007
Filed May 10, 2007
Response letter dated May 8, 2007
File No. 1-31398

Dear Mr. Wait:

We have reviewed your response letter and have the following comments. We have limited our review to only your financial statements and related disclosures and do not intend to expand our review to other portions of your documents. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Form 10-K for the Fiscal Year Ended December 31, 2006

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Consolidated Statements of Cash Flows, page F-6

1. We have considered your response to our prior comment number 5 in our letter of April 24, 2007. The revised descriptions suggest you are presenting cash flows under the direct method, while the statement appears to be presented under the indirect method. It is unclear why you would need to include an adjustment for the proceeds and gross profit if the sales of your rental equipment are included in revenues and cost of sales. Revise your cash flows as appropriate for presentation under the indirect method.

Form 10-Q for the Quarter Ended March 31, 2007

Exhibits 31.1 and 31.2

2. These certifications omit paragraph 4(b) referring to internal control over financial reporting. Please file an abbreviated amendment that consists of a cover page, explanatory note, signature page, and paragraphs 1, 2, 4, and 5 of the certification.

Closing Comments

As appropriate, please amend your filing and respond to these comments within 10 business days or tell us when you will provide us with a response. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

You may contact Gary Newberry at (202) 551-3761 if you have questions regarding comments on the financial statements and related matters. Please contact me at (202) 551-3684 with any other questions.

Sincerely,

April Sifford
Branch Chief