

DAWSON GEOPHYSICAL COMPANY

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February 4, 2009

VIA FACSIMILE AND EDGAR TRANSMISSION

Memorandum

for

Securities and Exchange Commission

100 F. Street, N.E.

Washington, D.C. 20549

**Re: Dawson Geophysical Company
Form 10-K for the Fiscal Year Ended September 30, 2008
Filed December 9, 2008
Response Letter Dated January 23, 2009
File No. 0-10144**

This memorandum sets forth the responses of Dawson Geophysical Company (the "Company") to the comments provided by the staff (the "Staff") of the Securities and Exchange Commission (the "Commission") in its comment letter dated January 30, 2009 (the "Comment Letter") with respect to the Company's annual report on Form 10-K for the Fiscal Year Ended September 30, 2008 (File No. 0-10144) (the "Annual Report"). For your convenience, we have repeated each comment of the Staff in bold type face exactly as given in the Comment Letter and set forth below such comment is our response.

Definitive Proxy Statement on Schedule 14A filed on December 16, 2008

Short-Term Incentive Compensation, page 8

- 1. We note your response to our previous comment 5. Please provide greater detail on the formula used to determine the distributions of the bonus pool to eligible employees. For example, please explain if the variables in the formula are weighted. Further, provide disclosure, in table format or otherwise, of the actual value of each variable for each named executive officer.**

In response to the Staff's additional comment, the Company will revise its disclosure in future proxy statements generally as follows (changes are shown against current proxy disclosure):

"The Named Executive Officers participate in our profit sharing program, along with all other eligible employees. The profit sharing program is designed to award our employees for the financial success of the Company. With respect to each fiscal year, our Board of Directors, acting on the recommendation of our Compensation Committee, determines a pool amount available to be allocated in the first quarter of the following fiscal year to all eligible employees,

including the Named Executive Officers. For both fiscal 2008 and fiscal 2007, our Board of Directors set the pool at 5% of our pre-tax net income for the applicable fiscal 2008 year. The distribution of the pool to eligible employees is based upon a ~~variety of factors including~~ formula consisting of (i) base salary, (ii) seniority and (iii) an internal value of the position and seniority, or "position code." The position code starts at 1 for all employees and increases pursuant to the internal value of the position up to 1.25 for senior officers and other senior managers. While in recent years, the Company has weighted the three factors comprising the formula equally, management periodically reassesses the formula based on its assessment of the appropriate balance and relevance of the individual factors in order to retain key individuals. The bonus pool is allocated to each eligible employee on a pro rata basis according to the formula. The fiscal 2008 and fiscal 2007 profit sharing awards paid to our Named Executive Officers are included in the Summary Compensation Table on page 12. Each of the Named Executive Officers had a position code of 1.25 for both fiscal 2007 and fiscal 2008. In September 2008, our Board of Directors preliminarily set the fiscal 2009 allocation for the profit sharing plan at 5% of our pre-tax net income for fiscal 2009."

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If you have any questions or comments regarding this memorandum, please contact Sarah Rechter of Baker Botts L.L.P. at (214) 953-6419 or, in her absence, Neel Lemon of Baker Botts L.L.P. at (214) 953-6954.

Dawson Geophysical Company

/s/ Christina W. Hagan

Christina W. Hagan
Executive Vice President, Secretary
and Chief Financial Officer

cc: Sean Donahue
John Madison
Securities and Exchange Commission

Stephen C. Jumper
Dawson Geophysical Company

Sarah Rechter
Baker Botts L.L.P.