UNITED STATES SECURITIES AND EXCHANGE COMMISSION WASHINGTON, DC 20549

FORM 8-K

CURRENT REPORT

PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

DATE OF EARLIEST EVENT REPORTED: April 30, 2010

ATWOOD OCEANICS, INC. (Exact Name of Registrant as Specified in Its Charter)

Texas (State or Other Jurisdiction of Incorporation)

COMMISSION FILE NUMBER 1-13167

IRS Employer Identification No. 74-1611874

15835 Park Ten Place Drive Houston, Texas, 77084 (Address of Principal Executive Offices)

(281) 749-7800 (Registrant's Telephone Number, Including Area Code)

N/A (Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

[]	Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
[]	Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
[]	Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
[]	Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

ITEM 1.01 Entry into a Material Definitive Agreement.

Atwood Oceanics, Inc. ("AOI") and its subsidiary Atwood Oceanics Pacific Limited ("AOPL" and collectively with AOI, the "Company") are parties to that certain Credit Agreement for \$280 million dated November 25, 2008 among AOI, AOPL, Nordea Bank Finland plc, New York Branch, Administrative Agent, and the lenders named therein (the "2008 Credit Agreement"). On April 30, 2010, the parties to the 2008 Credit Agreement entered into a First Amendment thereto. In accordance with the 2008 Credit Agreement, ownership of the collateral rig ATWOOD FALCON was transferred to Swiftdrill Malta, a newly-formed Maltese subsidiary of the Company. The First Amendment provides for an appointment of a security trustee in order to satisfy Maltese law requirements relating to security interests granted in connection with the transfer of the ATWOOD FALCON.

The foregoing description of the First Amendment does not purport to be complete and is qualified in its entirety by reference to the First Amendment which is attached hereto and filed herewith as Exhibit 10.1.

Statements contained in this report with respect to the future are forward-looking statements. These statements reflect management's reasonable judgment with respect to future events. Forward-looking statements involve risks and uncertainties. Actual results could differ materially from those anticipated as a result of various factors including: the Company's dependence on the oil and gas industry; the risks involved in the construction of a rig and commencement of operations of the rig following delivery; competition; operating risks; risks involved in foreign operations; risks associated with possible disruption in operations due to terrorism, acts of piracy, embargoes, war or other military operations; and governmental regulations and environmental matters. A list of additional risk factors can be found in the Company's annual report on Form 10-K for the year ended September 30, 2009, filed with the Securities and Exchange Commission.

ITEM 9.01 EXHIBITS

(d) Exhibits

Exhibit No. Description of Exhibit

10.1 First Amendment to Credit Agreement dated April 30, 2010

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 hereunto duly authorized.

ATWOOD OCEANICS, INC. (Registrant)

/s/ James M. Holland James M. Holland Senior Vice President DATE: May 5, 2010