## ATWOOD OCEANICS INC

Item 2(b).

Residence:

Form SC 13G October 10, 2007

```
SCHEDULE 13G
Amendment No. 0
Atwood Oceanics Incorporated
Common Stock
Cusip #050095108
Cusip #050095108
Item 1: Reporting Person - FMR LLC
Item 4: Delaware
Item 5: 586,450
Item 6: 0
Item 7: 3,400,050
Item 8: 0
Item 9: 3,400,050
Item 11: 10.735%
Item 12:
Cusip #050095108
Item 1: Reporting Person - Edward C. Johnson 3d
Item 4: United States of America
Item 5: 0
Item 6: 0
Item 7: 3,400,050
Item 8: 0
Item 9: 3,400,050
SCHEDULE 13G - TO BE INCLUDED IN
STATEMENTS
       FILED PURSUANT TO RULE 13d-1(b) or 13d-2(b)
              Name of Issuer:
Item 1(a).
               Atwood Oceanics Incorporated
Item 1(b).
               Name of Issuer's Principal Executive Offices:
               15835 Park Ten Place Drive
               Suite 200
               Houston, TX 77084
              Name of Person Filing:
Item 2(a).
               FMR LLC
```

Address or Principal Business Office or, if None,

82 Devonshire Street, Boston,

Massachusetts 02109

Item 2(c). Citizenship:

Not applicable

Item 2(d). Title of Class of Securities:

Common Stock

Item 2(e). CUSIP Number:

050095108

Item 3. This statement is filed pursuant to Rule 13d-1 (b) or 13d-2 (b) and the person filing, FMR LLC, is a parent holding company in accordance with Section 240.13d-1(b) (ii) (G). (Note: See Item 7).

Item 4. Ownership

- (a) Amount Beneficially Owned: 3,400,050
- (b) Percent of Class: 10.735%
- (c) Number of shares as to which such person has:
- (i) sole power to vote or to direct the vote: 586,450
- $\hspace{1cm} \mbox{(ii)} \hspace{0.5cm} \mbox{shared power to vote or to} \\ \mbox{direct the vote:} \hspace{0.5cm} \mbox{0}$
- (iii) sole power to dispose or to direct the disposition of: 3,400,050
- (iv) shared power to dispose or to direct the disposition of:  $\ensuremath{\text{0}}$

Item 5. Ownership of Five Percent or Less of a Class.

Not applicable.

Item 6. Ownership of More than Five Percent on Behalf of Another Person.

Various persons have the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, the Common Stock of Atwood Oceanics Incorporated.

No one person's interest in the Common Stock of Atwood Oceanics Incorporated is more than five percent of the total outstanding Common Stock.

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company.

See attached Exhibit A.

Item 8. Identification and Classification of Members of the Group.

Not applicable. See attached Exhibit A.

Item 9. Notice of Dissolution of Group.

Not applicable.

Item 10. Certification.

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were acquired in the ordinary course of business and were not acquired for the purpose of and do not have the effect of changing or influencing the control of the issuer of such securities and were not acquired in connection with or as a participant in any transaction having such purpose or effect.

Signature

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

October 09, 2007 Date

/s/John McGinty Signature

John McGinty

Duly authorized under Power of Attorney dated May 18, 2007, by Eric D. Roiter by and on behalf of FMR LLC and its direct and indirect subsidiaries

SCHEDULE 13G - TO BE INCLUDED IN STATEMENTS

FILED PURSUANT TO RULE 13d-1(b) or 13d-2(b)

Pursuant to the instructions in Item 7 of Schedule 13G, Fidelity Management & Research Company ("Fidelity"), 82 Devonshire Street, Boston, Massachusetts 02109, a whollyowned subsidiary of FMR LLC and an investment adviser registered under Section 203 of the Investment Advisers Act of 1940, is the beneficial owner of 2,763,650 shares or 8.726% of the Common Stock outstanding of Atwood Oceanics Incorporated ("the Company") as a result of acting as investment adviser to various investment companies registered under Section 8 of the Investment Company Act of 1940.

Edward C. Johnson 3d and FMR LLC, through its control of Fidelity, and the funds each has sole power to dispose of the 2,763,650 shares owned by the Funds.

Members of the family of Edward C. Johnson 3d,

Chairman of FMR LLC, are the predominant owners, directly or through trusts, of Series B shares of voting common shares of FMR LLC, representing 49% of the voting power of FMR LLC. The Johnson family group and all other Series B shareholders have entered into a shareholders' voting agreement under which all Series B voting common shares will be voted in accordance with the majority vote of Series B voting common shares. Accordingly, through their ownership of voting common shares and the execution of the shareholders' voting agreement, members of the Johnson family may be deemed, under the Investment Company Act of 1940, to form a controlling group with respect to FMR LLC.

Neither FMR LLC nor Edward C. Johnson 3d, Chairman of FMR LLC, has the sole power to vote or direct the voting of the shares owned directly by the Fidelity Funds, which power resides with the Funds' Boards of Trustees. Fidelity carries out the voting of the shares under written guidelines established by the Funds' Boards of Trustees.

Pyramis Global Advisors Trust Company ("PGATC"), 53 State Street, Boston, Massachusetts, 02109, an indirect wholly-owned subsidiary of FMR LLC and a bank as defined in Section 3(a)(6) of the Securities Exchange Act of 1934, is the beneficial owner of 456,600 shares or 1.442% of the outstanding Common Stock of the Atwood Oceanics Incorporated as a result of its serving as investment manager of institutional accounts owning such shares.

Edward C. Johnson 3d and FMR LLC, through its control of Pyramis Global Advisors Trust Company, each has sole dispositive power over 456,600 shares and sole power to vote or to direct the voting of 406,500 shares of Common Stock owned by the institutional accounts managed by PGATC as reported above.

Fidelity International Limited ("FIL"), Pembroke Hall, 42 Crow Lane, Hamilton, Bermuda, and various foreign-based subsidiaries provide investment advisory and management services to a number of non-U.S. investment companies and certain institutional investors. FIL, which is a qualified institution under section 240.13d-1(b)(1) pursuant to an SEC No-Action letter dated October 5, 2000, is the beneficial owner of 179,800 shares or 0.568% of the Common Stock outstanding of the Company.

Partnerships controlled predominantly by members of the family of Edward C. Johnson 3d, Chairman of FMR LLC and FIL, or trusts for their benefit, own shares of FIL voting stock with the right to cast approximately 47% of the total votes which may be cast by all holders of FIL voting stock. FMR LLC and FIL are separate and independent corporate entities, and their Boards of Directors are generally composed of different individuals.

FMR LLC and FIL are of the view that they are not acting as a "group" for purposes of Section 13(d) under the Securities Exchange Act of 1934 (the "1934" Act) and that they are not otherwise required to attribute to each other the "beneficial ownership" of securities "beneficially owned" by the other corporation within the meaning of Rule 13d-3 promulgated under the 1934 Act. Therefore, they are of the

view that the shares held by the other corporation need not be aggregated for purposes of Section  $13\,(d)$ . However, FMR LLC is making this filing on a voluntary basis as if all of the shares are beneficially owned by FMR LLC and FIL on a joint basis.

SCHEDULE 13G - TO BE INCLUDED IN STATEMENTS

FILED PURSUANT TO RULE 13d-1(b) or 13d-2(b) RULE 13d-1(f)(1) AGREEMENT

The undersigned persons, on October 09, 2007, agree and consent to the joint filing on their behalf of this Schedule 13G in connection with their beneficial ownership of the Common Stock of Atwood Oceanics Incorporated at September 30, 2007.

FMR LLC

By /s/ John McGinty John McGinty

Duly authorized under Power of Attorney dated May 18, 2007, by Eric D. Roiter by and on behalf of FMR LLC and its direct and indirect subsidiaries  $\frac{1}{2}$ 

Edward C. Johnson 3d

By /s/ John McGinty John McGinty

Duly authorized under Power of Attorney dated May 18, 2007, by Eric D. Roiter by and on behalf of Edward C. Johnson 3d  $\,$ 

Fidelity Management & Research Company

By /s/ John McGinty John McGinty

Duly authorized under Power of Attorney dated May 18, 2007, by Eric D. Roiter Senior V.P. and General Counsel