

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-4
REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

TRANSOCEAN SEDCO FOREX INC.
(Exact name of registrant as specified in its charter)

CAYMAN ISLANDS	1381	N/A
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification No.)

4 GREENWAY PLAZA
HOUSTON, TEXAS 77046
(713) 232-7500
(Address, including ZIP code, and telephone number, including area code,
of registrant's principal executive offices)

ERIC B. BROWN, ESQ.
TRANSOCEAN SEDCO FOREX INC.
4 GREENWAY PLAZA
HOUSTON, TEXAS 77046
(713) 232-7500
(Name, address, including zip code, and telephone number,
including area code, of agent for service)

Copies to:

GENE J. OSHMAN
BAKER BOTTS L.L.P.
3000 ONE SHELL PLAZA
HOUSTON, TEXAS 77002-4995
(713) 229-1234

RICHARD HALL, ESQ.
CRAVATH, SWAINE & MOORE
825 EIGHTH AVENUE
NEW YORK, NEW YORK 10019
(212) 474-1000

APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE OF THE SECURITIES TO
THE PUBLIC: As soon as practicable after this Registration Statement becomes
effective.

If the securities being registered on this Form are being offered in
connection with the formation of a holding company and there is compliance with
General Instruction G, check the following box. []

If this Form is filed to register additional securities for an offering
pursuant to Rule 462(b) under the Securities Act, check the following box and
list the Securities Act registration statement number of the earlier effective
registration statement for the same offering. [X] 333-46374

If this Form is a post-effective amendment filed pursuant to Rule
462(d) under the Securities Act, check the following box and list the Securities
Act registration statement number of the earlier effective registration
statement for the same offering.

CALCULATION OF REGISTRATION FEE

TITLE OF EACH CLASS OF SECURITIES TO BE REGISTERED	AMOUNT TO BE REGISTERED(1)	PROPOSED MAXIMUM OFFERING PRICE PER SHARE	PROPOSED MAXIMUM AGGREGATE OFFERING PRICE(2)	AMOUNT OF REGISTRATION FEE
Ordinary Shares, par value \$.01 per share	140,000	--	\$6,188,000	\$1,547

(1) Represents the number of additional ordinary shares, par value \$0.01

per share ("Ordinary Shares"), of Transocean Sedco Forex Inc., a company incorporated under the laws of the Cayman Islands (the "Registrant"), estimated to be issuable in connection with the merger (the "Merger") of TSF Delaware Inc., a Delaware corporation and an indirect wholly owned subsidiary of the Registrant, with and into R&B Falcon Corporation, a Delaware corporation ("R&B Falcon"), as described in Registration Statement No. 333-46374, which was previously filed on Form S-4 on September 22, 2000 and subsequently amended on October 26, 2000 and October 30, 2000, and upon the exercise of options to purchase R&B Falcon common shares which will be assumed by the Registrant in connection with the Merger and, thereafter, be exercisable for Ordinary Shares. In connection with the filing of that Registration Statement, 119,146,879 Ordinary Shares of the Registrant were registered with the Securities and Exchange Commission and a fee of \$1,683,567 was paid.

- (2) Pursuant to Rules 457(c) and 457(f)(1) under the Securities Act of 1933, as amended, and solely for the purpose of calculating the registration fee, the proposed maximum aggregate offering price is equal to (x) the estimated number of additional R&B Falcon common shares to be exchanged in the Merger multiplied by (y) \$22.10, the average of the high and low sale prices per share of R&B Falcon common shares on the New York Stock Exchange on January 26, 2001.

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EXPLANATORY NOTE

This Registration Statement is being filed by the Registrant, pursuant to General Instruction K to Form S-4 Registration Statement and Rule 462(b) under the Securities Act of 1933, as amended, to register an additional 140,000 Ordinary Shares, of the Registrant for issuance pursuant to the merger (the "Merger") of an indirect wholly owned subsidiary of the Registrant with and into R&B Falcon Corporation ("R&B Falcon") and upon the exercise of options to purchase R&B Falcon common shares which will be assumed by the Registrant in connection with the Merger and, thereafter, be exercisable for Ordinary Shares.

The Registrant previously registered a total of 119,146,879 Ordinary Shares for issuance in connection with the Merger by means of a currently effectively Registration Statement on Form S-4 (Registration No. 333-46374), which was originally filed with the Securities and Exchange Commission on September 22, 2000 and subsequently amended on October 26, 2000 and October 30, 2000 (as amended, the "Prior Registration Statement"). The total number of Registrant Ordinary Shares to be issued pursuant to the merger is now expected not to exceed 119,286,879 shares.

The contents of the Prior Registration Statement are incorporated herein by reference.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 21. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES.

The following exhibits are filed herewith or incorporated by reference herein:

Exhibit No.	Description
*5	Opinion of Walkers, Cayman Islands.
8.1	Opinion of Cravath, Swaine & Moore regarding certain U.S. federal income tax consequences.
8.2	Opinion of Baker Botts L.L.P. regarding certain U.S. federal income tax consequences.
15.1	Letter Regarding Unaudited Interim Financial Information.
23.1	Consent of Ernst & Young LLP.
23.2	Consent of PricewaterhouseCoopers LLP.
23.3	Consent of Arthur Andersen LLP.
*23.4	Consent of Walkers, Cayman Islands (included in Exhibit 5).
23.5	Consent of Simmons & Company International.
23.6	Consent of Goldman, Sachs & Co.
23.7	Consent of Morgan Stanley & Co. Incorporated.
23.8	Consent of Cravath, Swaine & Moore (included in Exhibit 8.1).
23.9	Consent of Baker Botts L.L.P. (included in Exhibit 8.2)
*24	Powers of Attorney.

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* Incorporated by reference from the Registrant's Registration Statement on Form S-4, as amended (Registration No. 333-46374)

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Houston, State of Texas, on the 31th day of January, 2001.

TRANSOCEAN SEDCO FOREX INC.

By: /s/ ROBERT L. LONG

 Robert L. Long
 Executive Vice President and
 Chief Financial Officer

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities indicated and on January 31, 2001.

SIGNATURE -----	TITLE -----
*	Chairman of the Board of Directors
----- Victor E. Grijalva	
/s/ J. MICHAEL TALBERT	President, Chief Executive Officer and Director (Principal Executive Officer)
----- J. Michael Talbert	
/s/ ROBERT L. LONG	Executive Vice President and Chief Financial Officer (Principal Financial Officer)
----- Robert L. Long	
/s/ RICARDO ROSA	Vice President and Controller (Principal Accounting Officer)
----- Ricardo Rosa	
*	Director
----- Richard D. Kinder	
*	Director
----- Ronald L. Kuehn, Jr.	
*	Director
----- Arthur Lindenauer	
*	Director
----- Martin B. McNamara	
*	Director
----- Roberto Monti	
*	Director
----- Alain Roger	

*

Director

Kristian Siem

*

Director

Ian C. Strachan

* By: /s/ WILLIAM E. TURCOTTE

William E. Turcotte
(Attorney-in-Fact)

INDEX TO EXHIBITS

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* Incorporated by reference from the Registrant's Registration Statement on Form S-4, as amended (Registration No. 333-46374)

January 30, 2001

Agreement and Plan of Merger

Dated as of August 19, 2000,

By and Between Transocean Sedco Forex Inc., Transocean Holdings Inc.,
TSF Delaware Inc. and R&B Falcon Corporation

Dear Sirs:

We have acted as counsel for R&B Falcon Corporation, a Delaware corporation ("R&B Falcon"), in connection with the proposed merger whereby TSF Delaware Inc., a Delaware corporation ("Merger Sub") and wholly-owned subsidiary of Transocean Holdings Inc., a Delaware corporation ("Sub") and wholly-owned subsidiary of Transocean Sedco Forex, Inc., a Cayman Islands corporation ("Transocean"), will merge with and into R&B Falcon, with R&B Falcon being the surviving entity (the "Merger") pursuant to an Agreement and Plan of Merger, dated as of August 19, 2000, by and between Transocean, Sub, Merger Sub and R&B Falcon (the "Merger Agreement").

In that connection, you have requested our opinion regarding certain U.S. Federal income tax consequences of the Merger. In providing our opinion, we have examined the Merger Agreement, the registration statement on Form S-4 (the "Registration Statement"), which includes the Joint Proxy Statement and Prospectus of R&B Falcon and Transocean (the "Proxy Statement/Prospectus") filed with the Securities and Exchange Commission (the "SEC"), and such other documents and corporate records as we have deemed necessary or appropriate for purposes of our opinion. In addition, we have assumed that (i) the Merger will be consummated in accordance with the provisions of

the Merger Agreement and the Registration Statement, (ii) the statements concerning the Merger set forth in the Merger Agreement and the Registration Statement are true, complete and correct, (iii) the representations made by R&B Falcon and Transocean, in their respective letters delivered to us for purposes of this opinion (the "Representation Letters") are true, complete and correct and will remain true, complete and correct at all times up to and including the Effective Time (as defined in the Merger Agreement) and (iv) any representations made in the Representation Letters "to the best knowledge of" or similarly qualified are correct without such qualification. If any of the above described assumptions are untrue for any reason or if the Merger is consummated in a manner that is different from the manner in which it is described in the Merger Agreement or the Proxy Statement/Prospectus, our opinions as expressed below may be adversely affected and may not be relied upon. For purposes of this opinion, "U.S. Holder" means (i) a citizen or resident of the United States, (ii) a corporation or other entity taxable as a corporation created or organized under the laws of the United States or any of its political subdivisions, (iii) a trust if a U.S. court is able to exercise primary supervision over the administration of the trust and one or more U.S. fiduciaries have the authority to control all substantial decisions of the trust, or (iv) an estate that is subject to U.S. Federal income tax on its income regardless of its source.

Based upon the foregoing, for U.S. Federal income tax purposes, we are of opinion that (i) the Merger will constitute a reorganization within the meaning of Section 368(a) of the Internal Revenue Code of 1986, as amended (the "Code"), (ii) no gain or loss will be recognized by U.S. Holders of R&B Falcon common shares as a result of the conversion of R&B Falcon common shares into Transocean ordinary shares pursuant to the Merger (except with respect to cash received in lieu of fractional Transocean ordinary shares) provided that, in the case of U.S. Holders that, immediately after the Merger and taking into account any Transocean shares owned by such U.S. Holders immediately prior to the Merger as well as any Transocean shares received by such U.S. Holders pursuant to the Merger, own 5 percent or more (by either vote or value) of the shares of capital stock of Transocean ("5% Transocean Shareholders"), gain will not be recognized only if such 5% Transocean Shareholders enter into gain recognition agreements with the Internal Revenue Service as required

under Section 367 of the Code and the Treasury Regulations promulgated thereunder, (iii) other than with respect to 5% Transocean Shareholders who fail to enter into a gain recognition agreement (as described in clause (iii)) the aggregate tax basis of the Transocean ordinary shares received by U.S. Holders of R&B Falcon common shares in the Merger will be the same as the aggregate tax basis of the R&B Falcon common shares converted, and (iv) other than with respect to 5% Transocean Shareholders who fail to enter into a gain recognition agreement (as described in clause (iii)) the holding period of the Transocean ordinary shares received by U.S. Holders of R&B Falcon common shares will include the holding period of shares of R&B Falcon common shares converted.

Our opinions are based on current provisions of the Code, Treasury Regulations promulgated thereunder, published pronouncements of the Internal Revenue Service and case law, any of which may be changed at any time with retroactive effect. Any change in applicable laws or the facts and circumstances surrounding the Merger, or any inaccuracy in the statements, facts, assumptions or representations upon which we have relied, may affect the continuing validity of our opinions as set forth herein. We assume no responsibility to inform you of any such change or inaccuracy that may occur or come to our attention. Finally, our opinions are limited to the tax matters specifically covered hereby, and we have not been asked to address, nor have we addressed, any other tax consequences of the Merger.

This opinion is being provided for the benefit of R&B Falcon so that R&B Falcon may comply with its obligation under the Federal securities laws. We consent to the filing of this opinion as Exhibit 8 to the Registration Statement and to the reference to our firm name therein. In giving this consent, we do not admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act of 1933, as amended, or the rules or regulations of the SEC promulgated thereunder.

Very truly yours,

/s/ CRAVATH, SWAINE & MOORE

R&B Falcon Corporation
901 Threadneedle
Houston, Texas 77079

[BAKER BOTTS L.L.P. LETTERHEAD]

January 30, 2001

Transocean Sedco Forex Inc.
P.O. Box 265GT, Walker House
Grand Cayman, Cayman Islands

Ladies and Gentlemen:

We are acting as counsel to Transocean Sedco Forex Inc., a Cayman Islands company ("Transocean Sedco Forex"), in connection with (i) the Merger, as defined and described in the Agreement and Plan of Merger dated as of August 19, 2000 among Transocean Sedco Forex, Transocean Holdings Inc., a Delaware corporation ("Transocean Holdings"), TSF Delaware Inc., a Delaware corporation, and R&B Falcon Corporation, a Delaware corporation ("R&B Falcon") (the "Merger Agreement"), (ii) the preparation and filing of the Registration Statement (Registration No. 333-46374, Amendment No. 2) with the Securities and Exchange Commission (the "SEC") under the Securities Act of 1933, as amended (the "Securities Act") (the "Registration Statement"), which includes the joint proxy statement of Transocean Sedco Forex and R&B Falcon and the prospectus of Transocean Sedco Forex (together, the "Proxy Statement/Prospectus"), and (iii) the preparation and filing of a Second Registration Statement on January 30, 2001 with the SEC pursuant to General Instruction K to Form S-4 Registration Statement and Rule 462(b) under the Securities Act (the "Second Registration Statement").

In providing this opinion, we have examined and are relying upon the truth and accuracy at all relevant times of the statements, covenants, and representations contained in (i) the Merger Agreement, (ii) the Proxy Statement/Prospectus, (iii) certain other filings made by Transocean Sedco Forex and R&B Falcon with the SEC, (iv) certificates provided to us by representatives of Transocean Sedco Forex, Transocean Holdings, and R&B Falcon, and (v) other information provided to us by Transocean Sedco Forex. In addition, we assume that (i) the Merger will be consummated in accordance with the Merger Agreement and as described in the Proxy Statement/Prospectus and (ii) any representations referred to in the immediately preceding sentence which are made "to the best knowledge of" or with any similar qualification are correct without such qualification.

Subject to the assumptions set forth above and the assumptions and qualifications set forth in the discussion in the Proxy Statement/Prospectus under the headings "THE

MERGER--Certain United States Federal Income Tax Consequences--Scope of Discussion" and "--Certain U.S. Tax Consequences of the Merger to U.S. Holders" (the "Discussion"), we (i) are of the opinion that the Merger qualifies as a reorganization under section 368(a)(1)(B) of the Internal Revenue Code and (ii) hereby confirm the opinion of Baker Botts L.L.P. which is attributed to us in the Discussion. Except as specifically described herein, we express no opinion as to the United States federal, state, local, foreign, or other tax consequences of the Merger. As indicated in the Discussion, no ruling will be requested from the Internal Revenue Service (the "IRS") on any aspect of the Merger. Our opinion is not binding upon the IRS or a court and will not preclude the IRS or a court from adopting a contrary position.

This letter is furnished to you solely for use in connection with the Merger and is not to be relied upon by any other person, quoted in whole or in part, or otherwise referred to (except in a list of closing documents) without our express written consent. We hereby consent to the filing of this letter as an exhibit to the Second Registration Statement. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the SEC thereunder.

Sincerely,

/s/ BAKER BOTTS L.L.P.

EXHIBIT 15.1

LETTER REGARDING UNAUDITED INTERIM FINANCIAL INFORMATION

Transocean Sedco Forex Inc.:

We are aware that Transocean Sedco Forex Inc. has incorporated by reference in its registration statement on Form S-4 filed pursuant to Rule 462B, R&B Falcon Corporation's Form 10-Q's for the quarters ended September 30, 2000, June 30, 2000 and March 31, 2000, which include our reports dated October 25, 2000, July 31, 2000 and May 2, 2000, respectively, covering the unaudited interim financial information contained therein. Pursuant to Regulation C of the Securities Act of 1933, those reports are not considered a part of the registration statement prepared or certified by our Firm or reports prepared or certified by our firm within the meaning of Sections 7 and 11 of the Act.

/s/ Arthur Andersen LLP

Houston, Texas
January 30, 2001

CONSENT OF INDEPENDENT AUDITORS

We consent to the incorporation by reference in the Registration Statement (Form S-4) for the registration of 140,000 Ordinary Shares of Transocean Sedco Forex Inc., pursuant to Rule 462(b) of our report dated January 31, 2000, with respect to the consolidated balance sheet as of December 31, 1999, and the related combined statements of operations, equity and cash flows and schedule for the year then ended of Transocean Sedco Forex Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 1999, filed with the Securities and Exchange Commission.

/s/ ERNST & YOUNG LLP

Ernst & Young LLP

Houston, Texas
January 29, 2001

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the incorporation by reference in this Registration Statement on Form S-4 of Transocean Sedco Forex Inc. of our report dated August 6, 1999 relating to the financial statements and financial statement schedule of Transocean Sedco Forex Inc.(previously Sedco Forex Holdings Limited), which appear in Transocean Sedco Forex Inc.'s Annual Report on Form 10-K for the year ended December 31, 1999. We also consent to the references to us under the headings "Experts" and "Transocean Sedco Forex Selected Historical Combined Financial Data" in such Registration Statement.

/s/ PRICEWATERHOUSECOOPERS LLP
PricewaterhouseCoopers LLP
New York, New York
January 30, 2001

CONSENT OF INDEPENDENT PUBLIC ACCOUNTANTS

As independent public accountants, we hereby consent to the incorporation by reference in this registration statement on Form S-4 filed pursuant to Rule 462B of Transocean Sedco Forex Inc. of our report dated February 22, 2000 included in R&B Falcon Corporation's Form 10-K for the year ended December 31, 1999 and to all references to our Firm included in this registration statement.

/s/ Arthur Andersen LLP

Houston, Texas
January 30, 2001

CONSENT OF SIMMONS & COMPANY INTERNATIONAL

We hereby consent to (i) the use of our opinion letter to Transocean Sedco Forex Inc. (the "Company") included as Annex D to the Joint Proxy Statement/Prospectus which forms a part of the Registration Statement on Form S-4 relating to the proposed merger of the Company and R&B Falcon Corporation, and (ii) the references to such opinion in such Joint Proxy Statement/Prospectus. In giving such consent, we do not admit that we come within the category of persons whose consent is required under Section 7 of the Securities Act of 1933, as amended, or the rules and regulations of the Securities Exchange Commission thereunder, nor do we hereby admit that we are experts with respect to any part of such Registration Statement within the meaning of the term "experts" as used in the Securities Act of 1933, as amended, or the rules and regulations of the Securities Exchange Commissions thereunder.

Simmons & Company International

By: /s/ JOHN R. RUTHERFORD

John R. Rutherford
Managing Director

January 29, 2001

PERSONAL AND CONFIDENTIAL

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January 30, 2001

Board of Directors
Transocean Sedco Forex Inc.
4 Greenway Plaza
Houston, TX 77046

Re: Registration Statement on Form S-4 of Transocean Sedco
Forex Inc. (the "Registration Statement") relating to
the ordinary shares referred to below

Gentlemen:

You have notified us that Transocean Sedco Forex Inc. ("Transocean") intends to file the Registration Statement solely for the purpose of registering a certain additional number of ordinary shares, par value \$0.01 per share, to effectuate the transactions described in Transocean's Registration Statement on Form S-4, as amended (File No. 333-46374) (the "Earlier Registration Statement"). In connection with the filing of the Registration Statement, you have asked us to consent to the incorporation by reference into the Registration Statement of the opinion of our Firm and certain references thereto in the Joint Proxy Statement/Prospectus included in the Earlier Registration Statement, in accordance with General Instruction K to Form S-4.

In that regard, we hereby consent to the incorporation by reference into the Registration Statement of the opinion of our Firm in the Joint Proxy Statement/Prospectus included in the Earlier Registration Statement and to the incorporation by reference into the Registration Statement of the reference to the opinion of our Firm under the captions "Summary--Opinion of Goldman, Sachs & Co.", "The Merger--Background of the Merger" and "The Merger--Opinion of Goldman, Sachs & Co." in the Joint Proxy Statement/Prospectus included in the Earlier Registration Statement. In giving such consent, we do not thereby admit that we come within the category of persons whose consent is required under Section 7 of the Securities Act of 1933 or the rules and regulations of the Securities and Exchange Commission thereunder.

The above-referenced opinion letter was provided for the information and assistance of the Board of Directors of Transocean in connection with its consideration of the transaction contemplated therein and is not to be used, circulated, quoted or otherwise referred to for any other purpose, nor is it to be filed with, included in or referred to in whole or in part in any registration statement, proxy statement or any other document, except in accordance with our prior written consent.

Very truly yours,

/s/ GOLDMAN, SACHS & CO.

We hereby consent to the use in the Registration Statement of Transocean Sedco Forex Inc. ("Transocean") on Form S-4 of our opinion dated August 19, 2000 appearing as Annex B to the Joint Proxy Statement/Prospectus of Transocean and R&B Falcon Corporation, which is part of the Registration Statement of Transocean on Form S-4 filed on September 22, 2000 and subsequently amended on October 26, 2000 and October 30, 2000, to the description therein of such opinion and to the references therein to our name in the section entitled "Fairness Opinion of Morgan Stanley & Co. Incorporated." In giving the foregoing consent, we do not admit that we come within the category of persons whose consent is required under Section 7 of the Securities Act of 1933, as amended (the "Securities Act"), or the rules and regulations promulgated thereunder, nor do we admit that we are experts with respect to any part of such Registration Statement within the meaning of the term "experts" as used in the Securities Act or the rules and regulations promulgated thereunder.

MORGAN STANLEY & CO.
INCORPORATED

By: J. MICHAEL HAFNER

J. Michael Hafner
Principal

New York, New York
January 30, 2001