

This Prospectus is filed pursuant to Rule 424(b) (3) and relates to Post-Effective Amendment No. 4 to National-Oilwell Inc.'s Form S-4 Registration Statement (File No. 333-32191)

14,333,692 SHARES

[NATIONAL-OILWELL, INC. LOGO]

NATIONAL-OILWELL, INC.

COMMON STOCK

All shares of common stock, par value \$.01 per share (the "Common Stock") of National-Oilwell, Inc., a Delaware corporation ("National-Oilwell" or the "Company"), offered hereby are issuable upon exchange of an Exchangeable Share (an "Exchangeable Share") of Dreco Energy Services Ltd., an Alberta corporation ("Dreco"), issued by Dreco in exchange for Dreco class "A" common shares in connection with the combination (the "Combination") of National-Oilwell and Dreco completed on September 25, 1997. Such shares are being offered on a continuous basis pursuant to Rule 415 under the Securities Act of 1933, as amended (the "Securities Act"), during the period of time that the registration statement to which this Prospectus relates is kept effective. Upon the exchange of Exchangeable Shares for Common Stock, holders of Exchangeable Shares will be entitled to receive one share of Common Stock, plus an additional amount equivalent to the full amount of all declared and unpaid and undeclared but payable dividends on the Exchangeable Share, for each Exchangeable Share. See "Plan of Distribution." All expenses of registration incurred in connection with this offering are being borne by the Company. The Common Stock is listed on the New York Stock Exchange under the symbol "NOI." On November 20, 1997, the last reported sale price of the Common Stock on the New York Stock Exchange was \$32.38 per share.

SEE "RISK FACTORS" BEGINNING ON PAGE 5 FOR A DISCUSSION OF CERTAIN CONSIDERATIONS RELEVANT TO AN INVESTMENT IN THE COMMON STOCK OFFERED HEREBY.

HOLDERS OF DRECO EXCHANGEABLE SHARES SHOULD CONSULT THEIR OWN TAX ADVISORS WITH RESPECT TO THE UNITED STATES, CANADIAN AND OTHER TAX CONSEQUENCES OF EXCHANGING THEIR EXCHANGEABLE SHARES FOR SHARES OF NATIONAL-OILWELL COMMON STOCK AS DESCRIBED HEREIN. SEE "RISK FACTORS -- TAXABILITY OF THE EXCHANGE" AND "PLAN OF DISTRIBUTION."

THESE SECURITIES HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION NOR HAS THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION PASSED UPON THE ACCURACY OR ADEQUACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

THE DATE OF THIS PROSPECTUS IS NOVEMBER 20, 1997.

THE COMPANY

National-Oilwell is a worldwide leader in the design, manufacture and sale of machinery, equipment and downhole products used in oil and gas drilling and production, as well as in the distribution to the oil and gas industry of maintenance, repair and operating products.

The Company manufactures and assembles drilling machinery, including drawworks, mud pumps and power swivels (also known as "top drives"), which are the major mechanical components of rigs used to drill oil and gas wells, as well as masts, derricks and substructures, which are used to support these mechanical components. Many of these components are designed specifically for applications in offshore, extended reach and deep land drilling. The Company estimates that approximately 65% of the mobile offshore rig fleet and the majority of the

world's larger land rigs (2,000 horsepower and greater) manufactured in the last twenty years utilize drawworks, mud pumps and other drilling machinery components manufactured by the Company.

As a result of the Combination, National-Oilwell has added a business segment that designs and manufactures drilling motors and specialized drilling tools for rent and for sale. Drilling motors are essential components of systems for horizontal, directional, extended reach and performance drilling. Drilling tools include drilling jars, shock tools and other specialized products.

The Company also provides distribution services through its network of distribution service centers located near major drilling and production activity worldwide, but principally in the United States and Canada. These distribution service centers stock and sell a variety of expendable items for oilfield applications and spare parts for National-Oilwell equipment. As oil and gas companies and drilling contractors have refocused on their core competencies and emphasized efficiency initiatives to reduce costs and capital requirements, the Company's distribution services have expanded to offer outsourcing and alliance arrangements that include comprehensive procurement, inventory management and logistics support.

National-Oilwell believes that the Combination with Dreco, completed on September 25, 1997, enhances the ability of National-Oilwell to compete in the oilfield products and services industry. Specifically, the combined companies have the ability to provide a more complete rig package to customers through the combination of National-Oilwell's oilfield equipment operations (which had emphasized the major machinery components of a drilling rig) with Dreco's rig fabrication business (which had emphasized the design and construction of derricks, masts and substructures). In addition, the combination of Dreco's engineering expertise with the size, geographical coverage and after-market support of National-Oilwell is attractive to many customers. National-Oilwell also added Dreco's downhole products business as a third business segment and may benefit from the ability of the combined company to market and deliver Dreco's line of downhole products through National-Oilwell's extensive distribution system.

Drilling activity worldwide has increased significantly since early 1996 with demand for oil and gas rising and inventories comparatively low. In addition, increased use of 3-D seismic, directional drilling and other technologies have lowered the cost of finding and developing hydrocarbons, while at the same time oil and gas prices have become more stable. As a result of these industry conditions, drilling contractors are experiencing significant increases in the prices they can charge for their services and equipment, and the resulting higher cash flows are enabling capital spending to replace and upgrade the aging drilling rig fleet.

Over the last fifteen years, much of the demand for capital equipment has been satisfied from the large surplus of equipment built during the late seventies and early eighties. The Company believes that the surplus has been reduced substantially over this period, especially for higher capacity equipment for which National-Oilwell is a leading supplier.

Even with the recent increase in capital equipment orders, National-Oilwell believes that additional industry growth will occur due to annual ongoing requirements for higher capacity equipment that will be needed to replace equipment of this type lost to normal attrition and to satisfy future industry production requirements. National-Oilwell believes that reasonably anticipated demand for the purchase of capital equipment from it in 1998 can be met without significant incremental capital expenditures by the Company's continuing focus on process improvement and through the combined capabilities available after the Combination.

National-Oilwell's current business strategy is to enhance its market positions and operating performance by:

Leveraging Its Installed Base of Higher Horsepower Drilling Machinery. National-Oilwell believes its market position presents substantial opportunities to capture a significant portion of expenditures for the construction of new, higher capability drilling rigs and equipment as well as the upgrade and refurbishment of existing drilling rigs and equipment. The Company believes the advanced age of the existing fleet of drilling rigs,

coupled with increasing drilling activity involving greater depths and extended reach, will increase the demand for the construction of new drilling rigs and the upgrading and capacity enhancement of existing rigs. National-Oilwell's higher horsepower drawworks, mud pumps and power swivels provide, in many cases, the largest capacities currently available in the industry.

Expanding Its Downhole Business. National-Oilwell believes that the strengthened marketing and distribution capabilities resulting from the Combination provide an opportunity for growth in the rental and sale of high-performance drilling motors and downhole tools, especially for use in directional, horizontal, extended reach and other value-added drilling applications.

Building on Distribution Strengths and Alliance/Outsourcing Trends. National-Oilwell has developed and implemented integrated information and process systems that enhance procurement, inventory management and logistics activities. The strategic integration of National-Oilwell's distribution expertise, extensive distribution network and growing base of customer alliances provides an increased opportunity for cost-effective marketing of National-Oilwell's manufactured equipment. As a result of efficiency initiatives, oil and gas companies and drilling contractors are frequently seeking alliances with suppliers, manufacturers and service providers, or outsourcing their procurement, inventory management and logistics requirements for equipment and supplies in order to achieve cost and capital improvements. National-Oilwell believes that it is well-positioned to provide these services as a result of its (i) large and geographically diverse network of distribution service centers in major oil and gas producing areas, (ii) purchasing leverage due to the volume of products sold, (iii) breadth of available product lines and (iv) information systems that offer customers enhanced online and onsite services.

Continuing to Make Acquisitions That Enhance its Product Line. National-Oilwell believes that the oilfield service and equipment industry will continue to experience consolidation as smaller businesses seek to align themselves with larger market participants in order to gain access to broader markets and become affiliated with integrated product offerings. National-Oilwell's strategy is to take advantage of this trend, including by acquiring businesses that have operations complementary to its existing product lines. During 1997, the Company made three significant acquisitions: in September, it completed its Combination with Dreco, which enables the Company to provide a more complete rig package to its customers; in May, the Company acquired PEP, Inc., a manufacturer of petroleum expendable pump products that are similar to those manufactured by National-Oilwell; and, in April, it acquired the drilling controls business of Ross Hill Controls, a leader in the manufacture, sale and service of innovative electrical control systems used in conjunction with drilling operations.

National-Oilwell is incorporated in Delaware, with its principal executive offices located at 5555 San Felipe, Houston, Texas 77056, and its telephone number is (713) 960-5100.

THE OFFERING

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|--------------------------------------------------|-------------------------|
| Common Stock Offered..... | 14,333,692 shares |
| Common Stock Outstanding After the Offering..... | 50,972,340 shares(1)(2) |
| New York Stock Exchange Symbol..... | NOI |
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(1) All share numbers in this Prospectus, other than share numbers incorporated by reference from filings by the Company prior to November 18, 1997, reflect the Company's and Dreco's stock dividends paid on November 18, 1997.

(2) Excludes 1,291,288 shares of Common Stock issuable at November 3, 1997 upon exercise of outstanding options to purchase Common Stock and 316,264 shares of Common Stock that will be issued in January 1999 pursuant to the Company's Value Appreciate Plans.

This Prospectus contains, or has incorporated by reference, forward-looking statements that address, among other things, statements under "The Company" and "Risk Factors" as well as in the Prospectus generally. Although National-Oilwell believes that the expectations reflected in such forward-looking statements are reasonable, it can give no assurance that such expectations will prove to have been correct. Important factors that could cause actual results to differ materially from National-Oilwell's expectations are disclosed under "Risk Factors" and in this Prospectus generally.

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RISK FACTORS

The following risk factors, as well as the other information contained in this Prospectus, should be considered carefully before purchasing the Common Stock offered hereby.

TAXABILITY OF THE EXCHANGE

The exchange of Exchangeable Shares for shares of National-Oilwell Common Stock will generally be a taxable event in Canada and the United States. A holder's tax consequences can vary depending on a number of factors, including the residency of the holder, the manner of the exchange (redemption or exchange) and the length of time that the Exchangeable Shares were held prior to exchange. The following discussion is based on Canadian and United States tax laws as they currently exist. Such laws may be subject to change.

On the exchange (other than by way of a redemption or retraction) of an Exchangeable Share for a share of National-Oilwell Common Stock, a holder of an Exchangeable Share who is resident in Canada (as defined for Canadian tax purposes) will generally realize a capital gain (or a capital loss) under Canadian tax law equal to the amount by which the proceeds of disposition of the Exchangeable Share, net of any reasonable costs of disposition, exceed (or are less than) the adjusted cost base of the Exchangeable Share to the holder. For these purposes, the proceeds of disposition will be the value of a share of National-Oilwell Common Stock at the time of the exchange plus the amount of all unpaid dividends on the Exchangeable Share received by the holder as part of the exchange consideration. On the redemption or retraction of an Exchangeable Share by Dreco, the holder of an Exchangeable Share who is resident in Canada will generally be deemed to receive a dividend equal to the amount, if any, by which the redemption proceeds exceed the paid-up capital of the Exchangeable Share redeemed. The amount of any such dividend will be subject to the tax treatment accorded to dividends. On the redemption or retraction of an Exchangeable Share, the holder will also be considered to have disposed of the Exchangeable Share, but the amount of such dividend will be excluded in computing the holder's proceeds of disposition for purposes of computing any capital gain or capital loss arising on the disposition of the Exchangeable Share. Under Canadian tax law, dividends are taxed differently than capital gains and may be taxed differently depending on the nature of the taxpayer. Prior to exchanging their Exchangeable Shares, holders should consult their own tax advisors.

With respect to holders of Exchangeable Shares not resident in Canada, the exchange (other than by way of a redemption or retraction) will generally not be subject to Canadian tax, provided that (a) the Exchangeable Shares are listed on a prescribed stock exchange (which currently includes the Toronto Stock Exchange), (b) the holder does not use or hold, and is not deemed to use or hold, the Exchangeable Shares in connection with a business carried on by the holder in Canada and (c) the holder, persons with whom the holder does not deal at arm's length, or the holder and such persons, has not owned (or had under option) 25% or more of the issued shares of any class or series of the capital stock of Dreco at any time within five years preceding the date in question.

On the redemption or retraction of an Exchangeable Share that is held by a holder who is not resident in Canada, the holder will be deemed to receive a dividend equal to the amount, if any, by which the redemption proceeds exceed the paid-up capital of the Exchangeable Share redeemed. Such dividend will be subject to Canadian withholding tax at the rate of 25%, unless such rate is reduced under an applicable bilateral tax treaty. Under the Canada-U.S. Income Tax Convention, the rate of such withholding tax would generally be reduced to 15%.

Pursuant to United States federal income tax law, holders of Exchangeable

Shares who are "United States persons" as defined for United States federal income tax purposes, will, except in limited circumstances, generally recognize gain or loss on the receipt of the shares of National-Oilwell Common Stock in exchange for such Exchangeable Shares. The gain or loss will be equal to the difference between the fair market value of the shares of National-Oilwell Common Stock at the time of the exchange and the United States holder's tax basis in the Exchangeable Shares. The gain or loss will generally be a capital gain or loss, except that, with respect to any Dividend Amount (as defined in "Plan of Distribution") on the Exchangeable Shares, ordinary income may be recognized by the holder. A capital gain or loss will be a long-term capital gain or loss if the Exchangeable Shares (together with the previously held Dresco Common Shares) have been held for more than eighteen months at the time of the exchange and will be mid-term capital gain or loss if the Exchangeable Shares (together with the previously held Dresco Common Shares) have been held for more

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than twelve months, but not more than eighteen months at the time of the exchange. Under certain limited circumstances, the exchange by a United States holder of Exchangeable Shares for shares of National-Oilwell Common Stock may be characterized as a tax-free exchange. In particular, an exchange of Exchangeable Shares for shares of National-Oilwell Common Stock pursuant to the Call Rights (as defined in "Plan of Distribution") at a time when National-Oilwell owns at least 80% of the issued and outstanding Exchangeable Shares, may constitute a tax-free exchange.

Holders of Exchangeable Shares are urged to consult their tax advisors with respect to the foreign tax consequences and the United States federal, state and local tax consequences of the exchange of their Exchangeable Shares for National-Oilwell Common Stock.

FOREIGN PROPERTY/QUALIFIED INVESTMENT ISSUES FOR CANADIAN SHAREHOLDERS

The Exchangeable Shares, provided they are listed on a prescribed stock exchange in Canada (which currently includes The Toronto Stock Exchange) (a) will be qualified investments under the Canadian Tax Act for trusts governed by registered retirement savings plans, registered retirement income funds and deferred profit sharing plans and (b) will not be foreign property under the Canadian Tax Act for trusts governed by registered pension plans, registered retirement savings plans, registered retirement income funds, deferred profit sharing plans and certain other tax-exempt persons. The National-Oilwell Common Stock (a) will also be a qualified investment under the Canadian Tax Act for trusts governed by registered retirement savings plans, registered retirement income funds and deferred profit sharing plans, but (b) will be foreign property under the Canadian Tax Act. Therefore, trustees of any such trusts holding Exchangeable Shares should consult their tax advisors prior to exchanging the Exchangeable Shares for shares of National-Oilwell Common Stock, as the shares of National-Oilwell Common Stock may be an unacceptable investment for such entities, or may subject the entity to additional taxes, fees or expenses.

DIFFERENCES IN CANADA AND U.S. TRADING MARKETS

The Exchangeable Shares are listed on The Toronto Stock Exchange, and the shares of National-Oilwell Common Stock issuable upon the exchange of Exchangeable Share are approved for listing by the New York Stock Exchange on a when issued basis. There is no current intention to list either the Exchangeable Shares or shares of National-Oilwell Common Stock on any other stock exchange in Canada or the United States. Therefore, the price at which the Exchangeable Shares will be traded will be based upon the market for such shares on The Toronto Stock Exchange, and the price at which shares of National-Oilwell Common Stock will be traded will be based upon the market for such shares on the New York Stock Exchange. There can be no assurances that the market price of the National-Oilwell Common Stock will be identical, or even similar, to the market price attributed to the Exchangeable Shares.

DEPENDENCE ON OIL AND GAS INDUSTRY

National-Oilwell's businesses are substantially dependent upon the condition of the oil and gas industry and the industry's willingness to explore for and produce oil and gas. The degree of such willingness is generally dependent upon the prevailing view of future product prices, which are influenced by numerous factors affecting the supply and demand for oil and gas, including the level of drilling activity, worldwide economic activity, interest

rates and the cost of capital, the development of alternate energy sources, environmental regulation, tax policies, political requirements of national governments, coordination by the Organization of Petroleum Exporting Countries ("OPEC") and the cost of producing oil and gas. Any significant reduction in demand for drilling services, in cash flows of drilling contractors or in rig utilization rates below current levels could result in a drop in demand for products manufactured and sold by National-Oilwell.

VOLATILITY OF OIL AND GAS PRICES

Oil and gas prices and activity have been characterized by significant volatility over the last twenty years. Since 1986, spot oil prices (West Texas Intermediate) have ranged from a low of approximately \$11 per barrel in 1986 to a high of approximately \$40 per barrel in 1991; spot gas prices (Henry Hub) have ranged from lows below \$1.00 per mcf of gas in 1992 to highs above \$3.00 per mcf in 1996 and 1997. These price changes have caused numerous shifts in the strategies and expenditure levels of oil and gas companies and drilling

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contractors, particularly with respect to decisions to purchase major capital equipment of the type manufactured by National-Oilwell. Moreover, uncertainty with respect to the stability and direction of future prices has often led to deferral of such expenditures. No assurance can be given as to the future price levels of oil and gas or the volatility thereof, or that the future price of oil and gas will be sufficient to support current levels of exploration and production.

HIGHLY COMPETITIVE INDUSTRY

The oilfield products and services industry is highly competitive. The revenues and earnings of National-Oilwell can each be affected by competitive actions such as price changes, introduction of new technologies and products or improved availability and delivery. National-Oilwell competes with a large number of companies, some of which may offer certain more technologically advanced products, possess greater financial resources and have more extensive and diversified operations.

POTENTIAL PRODUCT LIABILITY AND WARRANTY CLAIMS

Certain products of National-Oilwell are used in potentially hazardous drilling, completion and production applications that can cause personal injury or loss of life, damage to property, equipment or the environment and suspension of operations. National-Oilwell maintains insurance coverage in such amounts and against such risks as it believes to be in accordance with normal industry practice. Such insurance does not, however, provide coverage for all liabilities (including liabilities for certain events involving pollution), and there can be no assurance that such insurance will be adequate to cover all losses or liabilities that may be incurred by National-Oilwell in its operations. Moreover, no assurance can be given that National-Oilwell will, in the future, be able to maintain insurance at levels it deems adequate and at rates it considers reasonable or that particular types of coverage will be available. Litigation arising from a catastrophic occurrence at a location where National-Oilwell's equipment and services are used may, in the future, result in National-Oilwell being named as a defendant in product liability or other lawsuits asserting potentially large claims. National-Oilwell is a party to various legal and administrative proceedings which have arisen from its businesses. No assurance can be given with respect to the outcome of these or any other pending legal and administrative proceedings and the effects such outcomes may have on National-Oilwell.

IMPACT OF GOVERNMENTAL REGULATIONS

Many aspects of National-Oilwell's operations are affected by political developments, including restrictions on the ability to do business in various foreign jurisdictions, and are subject to both domestic and foreign governmental regulation, including those relating to oilfield operations, worker safety and the protection of the environment. In addition, National-Oilwell depends on the demand for its services from the oil and gas industry and, therefore, is affected by any changes in taxation, price controls or other laws and regulations that affect the oil and gas industry generally. The adoption of laws and regulations curtailing exploration for or production of oil and gas for economic or other policy reasons could adversely affect National-Oilwell's

operations. National-Oilwell cannot determine the extent to which its future operations and earnings may be affected by political developments, new legislation, new regulations or changes in existing regulations.

IMPACT OF ENVIRONMENTAL REGULATIONS

The operations of National-Oilwell and its customers are affected by numerous foreign, federal, state, provincial and local environmental laws and regulations. The technical requirements of these laws and regulations are becoming increasingly expensive, complex and stringent. These laws may impose penalties or sanctions for damages to natural resources or threats to public health and safety. Such laws and regulations may also expose National-Oilwell to liability for the conduct of or conditions caused by others, or for acts of National-Oilwell that were in compliance with all applicable laws at the time such acts were performed. Sanctions for noncompliance may include revocation of permits, corrective action orders, administrative or civil penalties and criminal prosecution. Certain environmental laws provide for joint and several liability for remediation of spills and releases of hazardous substances. In addition, National-Oilwell may be subject to claims alleging personal injury or property damage as a result of alleged exposure to hazardous substances, as well as damage to natural resources.

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RISK OF CERTAIN FOREIGN MARKETS

Certain of National-Oilwell's revenues result from the sale of products to customers for ultimate destinations in the Middle East, Africa and other international markets and are subject to risks of instability of foreign economies and governments. Furthermore, National-Oilwell's sales can be affected by laws and regulations limiting exports to particular countries. In certain cases, export laws and regulations of one jurisdiction may contradict those of another.

National-Oilwell attempts to limit its exposure to foreign currency fluctuations by limiting the amount of sales denominated in currencies other than United States dollars, Canadian dollars and British pounds. National-Oilwell has not engaged in and does not currently intend to engage in any significant hedging or currency trading transactions designed to compensate for adverse currency fluctuations among those or any other foreign currencies.

INTEGRATION OF ACQUISITIONS AND MANAGEMENT OF GROWTH

National-Oilwell recently consummated the Combination with Dresco and expects to evaluate and, where feasible, make additional strategic acquisitions in the future. There is no guarantee that the Company will not encounter integration difficulties or that it will extract any anticipated cost savings and margin enhancements. In addition, the process of combining the organizations could cause the interruption of, or a loss of momentum in, the activities of some or all of the companies' businesses, which could have an adverse effect on their combined operations. The Combination and recent growth in revenues and backlog have placed significant demands on the Company and its management to improve the combined entity's operational, financial and management information systems, to develop further the management skills of the Company's managers and supervisors, and to continue to train, motivate and effectively manage the Company's employees. The failure of the Company to manage its growth effectively could have a material adverse effect on the Company.

The Company has pursued an aggressive acquisition strategy, acquiring three businesses to date in 1997, and expects to continue to evaluate acquisitions that can provide meaningful benefits by expanding the Company's business and leveraging its existing infrastructure. However, there are various risks associated with pursuing an acquisition strategy of this nature, including problems inherent in integrating new businesses. There can be no assurance that suitable acquisition candidates will be available, that acquisitions can be completed on reasonable terms, that the Company will successfully integrate the operations of any acquired entities or that the Company will have access to adequate funds to effect any desired acquisitions.

CERTAIN ANTI-TAKEOVER PROVISIONS COULD DISCOURAGE UNSOLICITED PROPOSALS

The Company's Amended and Restated Certificate of Incorporation (the "Certificate of Incorporation") and Bylaws contain certain provisions which may

have the effect of delaying, deferring or preventing a change in control of the Company, including a classified board of directors, the removal of directors from office only for cause, the prohibition of stockholder action by written consent, advance notice requirements respecting stockholder nominations for director or any other matter, the number of directors being set by the board of directors, super majority voting provisions respecting amendments to the Certificate of Incorporation and limitation of persons who may call special stockholders' meeting. The Delaware General Corporation Law requires super majority voting thresholds to approve certain "business combinations" between interested stockholders and the Company which may render more difficult or tend to discourage attempts to acquire the Company. In addition, the Company's board of directors has the authority to issue shares of preferred stock ("Preferred Stock") in one or more series and to fix the rights and preferences of the shares of any such series without stockholder approval. Any series of Preferred Stock is likely to be senior to the Common Stock with respect to dividends, liquidation rights and, possibly, voting rights. The ability to issue Preferred Stock could also have the effect of discouraging unsolicited acquisition proposals, thus affecting the market price of the Common Stock and preventing stockholders from obtaining any premium offered by the potential buyer.

NO ANTICIPATED DIVIDENDS

The Company's board of directors has not previously authorized and does not currently anticipate authorizing in the foreseeable future the payment of cash dividends.

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USE OF PROCEEDS

Because the shares of Common Stock offered hereby will be issued upon exchange of the Exchangeable Shares, the Company will receive no net cash proceeds upon such issuance.

PLAN OF DISTRIBUTION

Holdes of Exchangeable Shares should consult their own tax advisors with respect to the United States, Canadian and other tax consequences of exchanging their Exchangeable Shares for shares of National-Oilwell Common Stock as described below. See "Risk Factors--Taxability of the Exchange."

EXCHANGEABLE SHARES

Pursuant to the terms of a plan of arrangement (the "Plan of Arrangement") under section 186 of the Alberta Business Corporations Act (the "ABCA"), Dreco has undergone a reorganization of capital whereby, among other things, it authorized and issued 0.9159 of an Exchangeable Share in exchange for each existing Dreco Common Share on September 25, 1997 (the "Effective Date").

National-Oilwell Common Stock may be issued to holders of Exchangeable Shares as follows: (i) holders of Exchangeable Shares may require at any time that such shares be exchanged or redeemed for an equivalent number of shares of National-Oilwell Common Stock (see "-- Election by Holders to Exchange or Redeem"); (ii) such Exchangeable Shares will be automatically redeemed upon the occurrence of certain events (see "-- Automatic Redemption"); and (iii) upon liquidation of National-Oilwell or Dreco, holders of Exchangeable Shares may be required to, or may elect to, exchange such Exchangeable Shares for shares of National-Oilwell Common Stock (see "-- Exchanges Upon Liquidation of National-Oilwell or Dreco"). No broker, dealer or underwriter has been engaged in connection with the offering of the National-Oilwell Common Stock covered hereby.

ELECTION BY HOLDERS TO EXCHANGE OR REDEEM

Exchange Put Right. Holders of the Exchangeable Shares will be entitled at any time at or following the Effective Date to require National-Oilwell to exchange all or any part of the Exchangeable Shares owned by such holders and to receive an equivalent number of shares of National-Oilwell Common Stock plus declared and unpaid and undeclared but payable dividends (the "Dividend Amount"), if any (the "Exchange Put Right"). The Exchange Put Right may be exercised at any time by notice in writing, which may be in the form of the panel on the certificates for Exchangeable Shares or by completing the Dreco Letter of Transmittal delivered to Dreco shareholders in connection with the

Joint Management Information Circular and Proxy Statement/Prospectus of National-Oilwell and Dreco dated August 21, 1997 (the "Joint Proxy Statement"). Such notice must be given by the holder to and received by Montreal Trust Company of Canada (or any successor thereto), trustee under the Voting and Exchange Trust Agreement dated as of September 25, 1997 between National-Oilwell and Dreco (which was attached as Annex G to the Joint Proxy Statement) (the "Voting and Exchange Trust Agreement"), transfer agent for the Exchangeable Shares and Canadian co-registrar for National-Oilwell Common Stock (the "Trustee"), and accompanied by: (i) presentation and surrender of the certificates representing such Exchangeable Shares and (ii) such other documents that may be required to effect a transfer of Exchangeable Shares by the ABCA, Dreco's Bylaws and the Trustee. The required materials must be sent to the Trustee's principal transfer offices in Calgary, Alberta and Toronto, Ontario or such other places as may be determined from time to time. An exchange pursuant to this right will be completed not later than the close of business on the third business day following receipt by the Trustee of the notice, the certificates and such other required documents.

Retraction Rights. Holders of the Exchangeable Shares will be entitled at any time following the Effective Time to require Dreco to retract (i.e., require Dreco to redeem) any or all such Exchangeable Shares owned by such holders and to receive an equivalent number of shares of National-Oilwell Common Stock plus the Dividend Amount, if any. Holders of the Exchangeable Shares may effect such retraction by presenting the appropriate share certificates to Dreco or the Trustee representing the number of Exchangeable Shares the holder desires Dreco to retract together with a duly executed Retraction Request (a "Retraction Request") in the form of Schedule A to the provisions attaching to the Exchangeable Shares (which were

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attached as Annex G to the Joint Proxy Statement) (the "Exchangeable Share Provisions") or such other form as may be acceptable to Dreco (a "Retraction Request") specifying the number of Exchangeable Shares the holder wishes Dreco to retract and the Retraction Date (the "Retraction Date"). The Retraction Date shall be a business day not less than five nor more than ten business days after the date on which Dreco receives the Retraction Request from the holder, together with such other documents as may be required to effect the retraction of the Exchangeable Shares by the ABCA, Dreco's Bylaws and the Trustee.

Upon receipt of the Exchangeable Shares, the Retraction Request and other required documentation from the holder thereof, Dreco must immediately notify National-Oilwell of such Retraction Request. National-Oilwell will thereafter have two business days in which to exercise its Retraction Call Right as discussed below under "Call Rights" (the "Retraction Call Right"). In the event National-Oilwell determines not to exercise its Retraction Call Right and provided that the Retraction Request is not revoked in accordance with the Exchangeable Share Provisions, Dreco is obligated to deliver to the holder not later than the Retraction Date the number of shares of National-Oilwell Common Stock equal to the number of Exchangeable Shares submitted by the holder for retraction, plus the Dividend Amount, if any. National-Oilwell will be obligated to provide such shares of National-Oilwell Common Stock to Dreco to comply with the Retraction Request.

AUTOMATIC REDEMPTION

Subject to applicable law and the Redemption Call Rights of National-Oilwell described below under "Call Rights" (the "Redemption Call Rights"), on an Automatic Redemption Date (defined below), Dreco will redeem all but not less than all of the then outstanding Exchangeable Shares in exchange for an equal number of shares of National-Oilwell Common Stock, plus the Dividend Amount, if any. Notwithstanding any proposed redemption of the Exchangeable Shares, National-Oilwell will, pursuant to its Redemption Call Rights, have the overriding right to purchase on an Automatic Redemption Date all but not less than all of the outstanding Exchangeable Shares in exchange for one share of National-Oilwell Common Stock for each such Exchangeable Share, plus the Dividend Amount, if any. An "Automatic Redemption Date" is the first to occur of (a) the fifth anniversary of the Effective Date (b) the date selected by the Dreco board of directors at a time when less than 15% of the Exchangeable Shares issuable on the Effective Date (other than shares held by National-Oilwell and its subsidiaries and subject to adjustment in certain events) are outstanding, (c) the business day prior to the record date for any meeting or vote of the shareholders of Dreco to consider any matter on which the

holders of Exchangeable Shares would be entitled to vote as shareholders of Dreco, but excluding any meeting or vote as described in clause (d) below or (d) the business day following the day on which the holders of Exchangeable Shares fail to take the necessary action at a meeting or other vote of the holders of Exchangeable Shares, if and to the extent such action is required, to approve or disapprove, as applicable, any change to, or in the rights of the holders of, Exchangeable Shares, if the approval or disapproval, as applicable, of such change would be required to maintain the economic and legal equivalence of the Exchangeable Shares and the National-Oilwell Common Stock. At least 45 days before an Automatic Redemption Date or before a possible Automatic Redemption Date which may result from a failure of the holders of Exchangeable Shares to take necessary action as described in clause (d) above, Dreco shall provide the registered holders of Exchangeable Shares with written notice of the proposed redemption of the Exchangeable Shares by Dreco. In the case of any notice given in connection with a possible Automatic Redemption Date, such notice will be given contingently and will be withdrawn if the contingency does not occur.

EXCHANGES UPON LIQUIDATION OF NATIONAL-OILWELL OR DRECO

Optional Exchange Right. Subject to National-Oilwell's Liquidation Call Right described below under "Call Rights" (the "Liquidation Call Right"), upon the occurrence and during the continuance of certain events relating to Dreco's insolvency described below (each, a "Dreco Insolvency Event"), a holder of Exchangeable Shares will be entitled to instruct the Trustee to exercise the optional exchange right (the "Optional Exchange Right") with respect to any or all of the Exchangeable Shares held by such holder, thereby requiring National-Oilwell to purchase such Exchangeable Shares from the holder. Immediately upon the occurrence of a Dreco Insolvency Event or any event which may with the passage of time or the giving of notice, become a Dreco Insolvency Event, Dreco and National-Oilwell will give written notice thereof to the

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Trustee. As soon as practicable thereafter, the Trustee will notify each holder of Exchangeable Shares of such event or potential event and will advise the holder of its rights with respect to the Optional Exchange Right. The consideration for each Exchangeable Share to be acquired under the Optional Exchange Right will be one share of National-Oilwell Common Stock plus the Dividend Amount, if any. "Dreco Insolvency Event" means: (i) the institution by Dreco of any proceeding to be adjudicated a bankrupt or insolvent or to be dissolved or wound-up, (ii) the consent of Dreco to the institution of bankruptcy, insolvency, dissolution or winding-up proceedings against it, (iii) the filing of a petition, answer or consent seeking dissolution or winding-up under any bankruptcy, insolvency or analogous laws, including without limitation the Companies Creditors' Arrangement Act (Canada) and the Bankruptcy and Insolvency Act (Canada), and the failure by Dreco to contest in good faith any such proceedings commenced in respect of Dreco within 15 days of becoming aware thereof, (iv) the consent by Dreco to the filing of any such petition or to the appointment of a receiver, (v) the making by Dreco of a general assignment for the benefit of creditors, or (vi) the admission in writing by Dreco of its inability to pay its debts generally as they become due.

Moreover, if as a result of liquidity or solvency provisions of applicable law, Dreco is unable to redeem all of the Exchangeable Shares tendered for retraction by a holder in accordance with the Exchangeable Shares Provisions as described under "Retraction Rights" above, the holder will be deemed to have exercised the Optional Exchange Right with respect to the unredeemed Exchangeable Shares, and National-Oilwell will be required to purchase such shares from the holder in the manner set forth above under "Retraction Rights."

Automatic Exchange Right. In the event of certain events relating to the liquidation of National-Oilwell as described below (each, a "National-Oilwell Liquidation Event"), National-Oilwell will be required to acquire each outstanding Exchangeable Share by exchanging one share of National-Oilwell Common Stock for each such Exchangeable Share, plus the Dividend Amount, if any. A "National-Oilwell Liquidation Event" shall occur upon: (i) any determination by the board of directors of National-Oilwell to institute voluntary liquidation, dissolution or winding-up proceedings with respect to National-Oilwell or to effect any other distribution of assets of National-Oilwell among its stockholders for the purpose of winding-up its affairs, at least 60 days prior to the proposed effective date of such liquidation, dissolution, winding-up or other distribution and (ii) the earlier of (A) receipt by National-Oilwell of notice of and (B) National-Oilwell's

otherwise becoming aware of any threatened or instituted claim, suit, petition or other proceedings with respect to the involuntary liquidation, dissolution or winding-up of National-Oilwell or to effect any other distribution of assets of National-Oilwell among its stockholders for the purposes of winding up its affairs.

CALL RIGHTS

In the circumstances described below, National-Oilwell will have certain overriding rights (the "Call Rights") to acquire Exchangeable Shares from holders thereof by delivering one share of National-Oilwell Common Stock for each Exchangeable Share acquired, plus the Dividend Amount, if any.

Retraction Call Right. Pursuant to the Exchangeable Share Provisions, a holder requesting Dreco to redeem the Exchangeable Shares will be deemed to offer such shares to National-Oilwell, and National-Oilwell will have an overriding Retraction Call Right to acquire all but not less than all of the Exchangeable Shares that the holder has requested Dreco to redeem in exchange for one share of National-Oilwell Common Stock for each Exchangeable Share, plus the Dividend Amount, if any.

Liquidation Call Right. Pursuant to the Plan of Arrangement, National-Oilwell has been granted an overriding Liquidation Call Right (the "Liquidation Call Right"), in the event of and notwithstanding a proposed liquidation, dissolution or winding-up of Dreco or any other distribution of the assets of Dreco among its shareholders for the purpose of winding-up its affairs, to acquire all but not less than all of the Exchangeable Shares then outstanding in exchange for National-Oilwell Common Stock, plus the Dividend Amount, if any. Upon the exercise by National-Oilwell of the Liquidation Call Right, the holders of Exchangeable Shares will be obligated to transfer such shares to National-Oilwell. The acquisition by National-Oilwell of all of the outstanding Exchangeable Shares upon the exercise of the Liquidation Call Right will occur on the effective date of the voluntary or involuntary liquidation, dissolution or winding-up of Dreco.

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Redemption Call Right. Pursuant to the Plan of Arrangement, National-Oilwell will be granted an overriding Redemption Call Right, notwithstanding the proposed automatic redemption of the Exchangeable Shares by Dreco pursuant to the Exchangeable Share Provisions, to acquire on an Automatic Redemption Date all but not less than all of the Exchangeable Shares then outstanding in exchange for National-Oilwell Common Stock, plus the Dividend Amount, if any, and, upon the exercise by National-Oilwell of the Redemption Call Right, the holders of the Exchangeable Shares will be obligated to transfer such shares to National-Oilwell.

Effect of Call Right Exercise. If National-Oilwell exercises one or more of its Call Rights, it will directly issue National-Oilwell Common Stock to holders of Exchangeable Shares and will become the holder of such Exchangeable Shares. National-Oilwell will not be entitled to exercise any voting rights attached to the Exchangeable Shares it so acquires. If National-Oilwell declines to exercise its Call Rights when applicable, it will be required, pursuant to the Support Agreement dated as of September 25, 1997 between National-Oilwell and Dreco (which was attached as Annex F to the Joint Proxy Statement), to issue National-Oilwell Common Stock as Dreco directs, including to Dreco, which will, in turn, transfer such stock to the holders of Exchangeable Shares in consideration for the return and cancellation of such Exchangeable Shares. National-Oilwell anticipates that it will exercise its Call Rights, when available, and currently foresees no circumstances under which it would not exercise its Call Rights. In addition, National-Oilwell does not anticipate any restriction or limitation on the number of Exchangeable Shares it would acquire upon exercise of Call Rights.

LEGAL MATTERS

The validity of the Common Stock offered hereby will be passed upon for National-Oilwell by Morgan, Lewis & Bockius LLP, Philadelphia, Pennsylvania.

EXPERTS

The consolidated financial statements of National-Oilwell at December 31, 1996 and for the year then ended, appearing in National-Oilwell's Current Report

on Form 8-K dated November 7, 1997 have been audited by Ernst & Young LLP, independent auditors, as set forth in their report thereon, included therein, and incorporated by reference elsewhere herein which is based in part on the report of Coopers & Lybrand, independent auditors. The financial statements referred to above are included in reliance upon such reports given upon the authority of such firms as experts in accounting and auditing.

The consolidated financial statements of National-Oilwell at August 31, 1995 and for each of the two years in the period ended August 31, 1995, appearing in National-Oilwell's Current Report on Form 8-K dated November 7, 1997 have been audited by Coopers & Lybrand, independent auditors, as set forth in their report thereon and incorporated by reference elsewhere herein, and are included in reliance upon such report given upon the authority of such firm as experts in accounting and auditing.

AVAILABLE INFORMATION

National-Oilwell is subject to the reporting requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and in accordance therewith files reports, proxy statements and other information with the Securities and Exchange Commission (the "Commission"). Such reports, proxy statements and other information can be inspected and copied at the public reference facilities maintained by the Commission at Room 1024, Judiciary Plaza, 450 Fifth Street, N.W., Washington, D.C. 20549, as well as the following Regional Offices of the Commission: Seven World Trade Center, 13th Floor, New York, New York 10048; and Citicorp Center, 500 West Madison Street, Suite 1400, Chicago, Illinois 60661. Copies of such material can be obtained from the Public Reference Section of the Commission at Room 1024, Judiciary Plaza, 450 Fifth Street, N.W., Washington, D.C. 20549 at prescribed rates. Such material also may be accessed electronically by means of the Commission's home page on the Internet (<http://www.sec.gov>). In

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addition, such reports, proxy statements and other information concerning National-Oilwell can be inspected and copied at the offices of the New York Stock Exchange, 20 Broad Street, New York, New York 10005.

This Prospectus constitutes a part of a registration statement on Form S-3 (herein, together with all exhibits and schedules thereto, referred to as this "Registration Statement") filed by National-Oilwell with the Commission under the Securities Act of 1933, as amended (the "Securities Act"), with respect to the securities offered hereby. This Prospectus does not contain all the information set forth in the Registration Statement, certain parts of which are omitted in accordance with the rules and regulations of the Commission. Reference is hereby made to the Registration Statement for further information with respect to National-Oilwell and the securities offered hereby. Copies of the Registration Statement are on file at the offices of the Commission and may be obtained upon payment of the prescribed fee or may be examined without charge at the public reference facilities of the Commission described above. Statements contained herein concerning the provisions of documents are necessarily summaries of such documents, and each statement is qualified in its entirety by reference to the copy of the applicable document filed with the Commission.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The following documents filed with the Commission pursuant to the Exchange Act are incorporated by reference in this Prospectus:

1. National-Oilwell's Annual Report on Form 10-K for the fiscal year ended December 31, 1996, as amended by Form 10-K/A filed on August 18, 1997.
2. National-Oilwell's Quarterly Report on Form 10-Q for the period ended March 31, 1997.
3. National-Oilwell's Quarterly Report on Form 10-Q for the period ended June 30, 1997.
4. National-Oilwell's Quarterly Report on Form 10-Q for the period ended September 30, 1997.
5. National-Oilwell's Current Report on Form 8-K filed on May 25,

1997.

6. National-Oilwell's Current Report on Form 8-K filed on October 8, 1997.

7. National-Oilwell's Current Report on Form 8-K filed on November 7, 1997.

8. The description of National-Oilwell's shares of Common Stock contained in the Registration Statement on Form 8-A filed by National-Oilwell with the Commission on October 15, 1996 to register such securities under the Exchange Act, as updated by National-Oilwell's Current Report on Form 8-K filed on November 17, 1997.

All reports and documents filed by National-Oilwell pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act after the date of this Registration Statement and prior to the filing of a post-effective amendment to this Registration Statement which indicates that all securities offered hereby have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference in this Registration Statement and to be a part hereof from the date of filing of such documents. Any statement contained in a document incorporated by reference herein shall be deemed to be modified or superseded for purposes hereof to the extent that a statement contained herein (or in any other subsequently filed document which also is incorporated by reference herein) modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed to constitute a part hereof except as so modified or superseded.

Upon request, National-Oilwell will provide without charge to each person to whom this Prospectus is delivered a copy of any or all of such documents which are incorporated herein by reference (other than exhibits to such documents unless such exhibits are specifically incorporated by reference into the documents that this Prospectus incorporates). Written or oral requests for copies should be directed to Gay Mather, Manager, Investor Relations, National-Oilwell, Inc., 5555 San Felipe, Houston, Texas 77056 (telephone number (713) 960-5422).

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NO DEALER, SALESPERSON, OR OTHER INDIVIDUAL HAS BEEN AUTHORIZED TO GIVE ANY INFORMATION OR TO MAKE ANY REPRESENTATIONS OTHER THAN THOSE CONTAINED, OR INCORPORATED BY REFERENCE, IN THIS PROSPECTUS IN CONNECTION WITH THE OFFERING COVERED BY THIS PROSPECTUS AND, IF GIVEN OR MADE, SUCH INFORMATION OR REPRESENTATIONS MUST NOT BE RELIED UPON AS HAVING BEEN AUTHORIZED BY THE COMPANY. THIS PROSPECTUS DOES NOT CONSTITUTE AN OFFER TO SELL, OR A SOLICITATION OF AN OFFER TO BUY, ANY SECURITIES OTHER THAN THOSE SPECIFICALLY OFFERED HEREBY IN ANY JURISDICTION TO ANY PERSONS TO WHOM IT IS UNLAWFUL TO MAKE SUCH OFFER OR SOLICITATION IN SUCH JURISDICTION. NEITHER THE DELIVERY OF THIS PROSPECTUS NOR ANY SALE MADE HEREUNDER SHALL, UNDER ANY CIRCUMSTANCES, CREATE ANY IMPLICATION THAT THE INFORMATION HEREIN IS CORRECT AS OF ANY TIME SUBSEQUENT TO ITS DATE.

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14,333,692 SHARES
[NATIONAL-OILWELL, INC. LOGO]

NATIONAL-OILWELL, INC.

PROSPECTUS

November 20, 1997

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