As filed with the Securities and Exchange Commission on May 12, 2005

Registration No. 333-____

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form S-3

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

Seitel, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

76-0025431

(I.R.S. Employer Identification No.)

10811 S. Westview Circle Building C, Suite 100

Houston, Texas 77043 (713) 881-8900

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Robert D. Monson
President and Chief Executive Officer
Seitel, Inc.
10811 S. Westview Circle
Building C, Suite 100
Houston, Texas 77043

(713) 881-8900

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Kathy L. Tedore Porter & Hedges, L.L.P. 700 Louisiana, 35th Floor Houston, Texas 77002 Telephone: (713) 226-0659

Telecopy: (713) 226-0259

Approximate date of commencement of proposed sale to the public: From time to time as determined by the selling stockholders.

If the only securities being registered on this form are being offered pursuant to dividend or interest reinvestment plans, please check the following box. []

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box. [X]

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

If this form is a post-effective amendment filed pursuant to Rule 462(c) 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. []

If delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box. []

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be	Amount to	Proposed Maximum	Proposed Maximum	Amount of
Registered				

	be Registered	Offering Price per Share	Aggregate Offering Price	Registration Fee
Common Stock, par value \$.01 per share	36,518,051 (1)(2)	\$1.305 (2)	\$47,656,056 (2)	\$4,726.81 (3)
Common Stock Purchase Warrants	15,037,568	-	-	- (4)

- (1) The number of shares indicated includes shares beneficially owned by the selling stockholders (including shares underlying the warrants also held by such selling stockholders) on the date hereof, which shares may be resold by the selling stockholders. Pursuant to Rule 416 under the Securities Act, there are also being registered hereby such additional indeterminate number of shares as may become issuable pursuant to the antidilution provisions of the warrants.
- (2) Estimated solely for the purpose of calculating the registration fee. Pursuant to Rule 457(c) under the Securities Act, the registration fee is calculated on the basis of the average of the high and low sale prices for the common stock on the NASDAQ Over-the-Counter Bulletin Board on May 6, 2005.
- (3) The filing fee of \$5,609.12 is offset by \$882.31 previously paid in connection with Registration Statement on Form S-1, No. 333-113446, filed by Seitel, Inc. on March 10, 2004.
- (4) Pursuant to Rule 457(g) under the Securities Act, no registration fee is required for the warrants since the 15,037,568 shares of common stock underlying the warrants are included in the common stock being registered hereby.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

SUBJECT TO COMPLETION, DATED MAY 12, 2005

PROSPECTUS

36,518,051 Shares of Common Stock

Common Stock Purchase Warrants

SEITEL, INC.

This prospectus relates to:

- the resale of 36,518,051 shares of our common stock (including any shares issued upon exercise of any outstanding warrants) owned by the selling stockholders;
- the resale of outstanding warrants to purchase 15,037,568 shares of common stock owned by the selling stockholders on the date hereof; and
- the issuance of shares of our common stock upon any exercise of the warrants by holders subsequent to the selling stockholders.

We will not receive any of the proceeds from the resale of the warrants or the resale of the shares of common stock, including the shares of common stock issuable upon exercise of the warrants. We will, however, receive proceeds from the exercise of the warrants. Each warrant, when exercised, will entitle the holder to receive a certain number of shares at an initial exercise price of \$0.72 per share. Therefore, if all of the outstanding warrants offered hereby are exercised, we will issue 15,037,568 shares of our common stock and we will receive aggregate proceeds of approximately \$10,827,049.

Our common stock is traded on the Nasdaq Over-The-Counter Bulletin Board under the symbol "SELA.OB." The last reported sale price for our common stock on Nasdaq Over-The-Counter Bulletin Board on May 11, 2005 was \$1.31.

We do not intend to apply to have the warrants listed on any securities exchange or included in any automated quotation system, and there is no active trading market for them.

Investing in our securities involves significant risks that are described in the "Risk Factors" section beginning on page 4 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

, 2005.

The date of this prospectus is

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You should rely only on the information contained in this prospectus. We have not authorized anyone to provide you with information that is different. The selling stockholders are offering to sell and seeking offers to buy shares of our common stock and the warrants only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or of any sale of our common stock or the warrants.

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PROSPECTUS SUMMARY

This summary highlights selected information described more fully elsewhere or incorporated by reference in this prospectus. This summary may not contain all the information that is important to you. We urge you to read the entire prospectus, including the documents incorporated by reference, before making an investment decision with respect to our securities. References in this prospectus to the terms "we," "us," "our" and "Seitel" mean Seitel, Inc. and its subsidiaries, unless the context indicates otherwise.

Seitel, Inc.

We are a leading provider of seismic data and related geophysical services to the oil and gas industry in North America. Our products and services are used by oil and gas companies to assist in the exploration for and development and management of oil and gas reserves. We have ownership in an extensive library of proprietary onshore and offshore seismic data that we have accumulated since 1982 and that we offer for license to a wide range of oil and gas companies. Our customers utilize this data, in part, to assist their identification of new geographical areas where subsurface conditions are favorable for oil and gas exploration, to determine the size, depth and geophysical structure of previously identified oil and gas fields, and to optimize the development and production of oil and gas reserves.

We believe that our library of onshore seismic data is one of the largest available for licensing in the United States and Canada. We also have ownership in a library of offshore data covering parts of the U.S. Gulf of Mexico shelf and certain deep water areas in the western and central U.S. Gulf of Mexico. We regularly add to the size of our seismic data library by conducting new seismic data creation programs funded (or "underwritten") substantially by our customers in exchange for a license granting exclusive access to newly acquired data for a limited period of time. We also acquire seismic surveys or entire seismic libraries from oil and gas companies which have discontinued their exploration and production focus in a particular geographical area and no longer require ownership of the data or library or which have determined to sell their data or library for financial purposes. These acquisitions are sometimes funded with cash, but typically are structured as non-monetary exchanges of seismic data, whereby we acquire ownership of existing data from customers in exchange for an assignment of a non-exclusive license to use data from our library. We also create new value-added products by applying advanced seismic data processing or other quantitative analytical techniques to selected portions of our library.

Our seismic data library includes both onshore and offshore three-dimensional ("3D") and two-dimensional ("2D") data and offshore multi-component data. We have ownership in more than 34,000 square miles of 3D and approximately 1.1 million linear miles of 2D seismic data concentrated primarily in the major North American oil and gas producing regions. The majority of our seismic data library covers onshore regions within North America, with a geographic concentration on the onshore and transition zone of the U.S. Gulf Coast extending from Texas to Florida, western Canada, Mississippi, eastern Texas, the Rocky Mountain region and northern Louisiana. Most of our remaining seismic data library covers the offshore Gulf of Mexico and eastern Canada. We conduct our seismic data creation and licensing business through two wholly owned subsidiaries, Seitel Data, Ltd. in the United States and Olympic Seismic Ltd. in Canada.

To support our seismic data licensing business, we maintain warehouse and electronic storage facilities at our Houston, Texas headquarters and our Calgary, Alberta location. Through our Seitel Solutions business unit, we offer the ability to access and interact with the seismic data we own and market via a standard web browser and the Internet.

Our principal executive offices are located at 10811 South Westview Circle Drive, Suite 100, Building C, Houston, Texas 77043, and our telephone number at that address is (713) 881-8900. Our website is located at www.seitel-inc.com. Information contained on our website is not a part of this prospectus.

Our Plan of Reorganization

In 2002, we restated our results of operations for the nine months ended September 30, 2001, and for our fiscal year ended December 31, 2000. The restatements, coupled with poor financial results in the first quarter of 2002, resulted in our covenant default in respect of \$255 million principal amount of our then outstanding notes. After such default and following attempts to negotiate a restructuring, certain of the initial holders of the notes filed involuntary chapter 11 petitions against us and our subsidiaries that guaranteed the notes (collectively, the "Debtors") on June 6, 2003. The successors to the petitioning creditors agreed with the Debtors that pursuit of a reorganization through the chapter 11 cases was preferable to continuing the involuntary cases and filed a joint motion to dismiss the involuntary cases, which was granted by the bankruptcy court on July 25, 2003.

On July 21, 2003, the Debtors filed voluntary petitions for relief under chapter 11, and on July 22, 2003 filed their initial joint plan of reorganization. Following the petition date, the Debtors continued to operate their businesses and manage their properties as debtors-in-possession, and we continued to timely file all periodic reports and other information prescribed by the United States Bankruptcy Code and the Securities Exchange Act of 1934, as amended (the "Exchange Act"). A trustee was not appointed in the chapter 11 cases.

On January 17, 2004, following months of negotiations among all relevant parties-in-interest and plan financing sources, the Debtors filed with the bankruptcy court the Third Amended Joint Plan of Reorganization, which subsequently was amended on February 6, 2004 (the "Plan"). The holders of the \$255 million principal amount of our then outstanding notes (and Seitel's largest creditors), agreed to vote for and support the Plan. In addition, the Plan was accepted by the holders of more than 99.6% of the shares of Seitel's common stock that voted on the Plan. On March 18, 2004, the bankruptcy court entered an order confirming the Plan and it became effective on July 2, 2004. The Plan provided that as of July 2, 2004:

- All 25,375,683 outstanding shares of our common stock were cancelled and automatically converted into the right to receive and be exchanged for:
- 25,375,683 shares of our reorganized common stock, representing all of our outstanding shares of reorganized common stock on the effective date of the Plan; and
- warrants to purchase 125,000,000 shares of our reorganized common stock, at an exercise price of \$0.60 per share exercisable through August 2, 2004 (the "Stockholder Warrants").
- To the extent the Stockholder Warrants were not exercised in full, Mellon HBV Alternative Strategies, LLC ("Mellon HBV") agreed (for itself and on behalf of certain of its affiliated funds and managed accounts, collectively the "Standby Purchasers") to purchase all shares of reorganized common stock not purchased upon the exercise of the Stockholder Warrants.
- As compensation for Mellon HBV's obligation to act as Standby Purchasers, the Company agreed to issue to them warrants to purchase 15,037,568 shares of the Company's reorganized common stock (the "Standby Purchaser Warrants").
- Net proceeds of approximately \$182.9 million from the July 2, 2004 sale of 113/4% senior notes due 2011 were placed in escrow.
- A revolving loan commitment of \$30 million, subject to borrowing base limitations, under our new revolving credit facility with Wells Fargo Foothill ("WFF") was made available to us.
- We were required to have cash and cash equivalents of not less than \$35 million available to pay allowed creditors' claims.

Exercise of the Stockholder Warrants resulted in our receipt of \$71.5 million in cash, before deducting \$3.6 million of related expenses. The Standby Purchasers purchased on August 12, 2004, at \$0.60 per share, 5,873,846 shares of reorganized common stock not purchased upon the exercise of the Stockholder Warrants. As a result, we received \$3.5 million and we issued the Standby Purchaser Warrants on August 12, 2004. The Standby Purchaser Warrants are exercisable until August 12, 2011, at an initial exercise price of \$0.72 per share, subject to adjustment upon the occurrence of certain events.

Pursuant to the Plan, in July and August 2004 all of our outstanding allowed pre-petition claims were fully paid, in cash, together with post-petition interest thereon totaling \$291.0 million. These payments were funded by net cash payments received by us upon exercise of the Stockholder Warrants, the net proceeds from the sale of shares of our common stock to the Standby Purchasers, the release from escrow of the net proceeds of \$182.9 million from the sale of our 1134% senior notes, and available cash and cash equivalents on hand. Claims reinstated under the Plan in the amount of \$1.2 million were not paid under the Plan.

The Offering

We entered into a registration rights agreement with Mellon HBV on the effective date of the Plan, providing registration rights for certain of our securities held by (or issuable to) the Standby Purchasers. The registration statement of which this prospectus is a part was filed in response to a demand for registration from Mellon HBV.

This prospectus relates to:

- the resale of 36,518,051 shares of our common stock (including any shares issued upon exercise of any outstanding warrants) owned by the selling stockholders;
- the resale of outstanding warrants to purchase 15,037,568 shares of common stock owned by the selling stockholders on the date hereof; and
- the issuance of shares of our common stock upon any exercise of the warrants by holders subsequent to the selling stockholders.

Use of Proceeds

We will not receive any of the proceeds from the resale of the warrants or the resale of the shares of common stock, including the resale of shares of common stock issuable upon exercise of the warrants. We will, however, receive proceeds from the exercise of the warrants. Each warrant, when exercised, will entitle the holder to receive a certain number of shares at an initial exercise price of \$0.72 per share. Therefore, if all of the outstanding warrants registered hereby are exercised, we will issue 15,037,568 shares of our common stock and we will receive aggregate proceeds of approximately \$10,827,049.

Nasdaq Over-The-Counter Bulletin Board Symbol

Our common stock is traded on the Nasdaq Over-The-Counter Bulletin Board under the symbol "SELA.OB." The warrants are not listed on any securities exchange or included in any automated quotation system.

RISK FACTORS

You should carefully consider each of the following risks and all of the information set forth or incorporated by reference in this prospectus before deciding to invest in our securities. If any of the following risks and uncertainties develop into actual events, our business, financial condition or results of operations and the trading price of our securities could be materially adversely affected. In that case, the trading price of our securities could decline and you may lose all or part of your investment. We are relying upon the safe-harbor for forward-looking statements and any such statements made by or on behalf of us are qualified by reference to the following cautionary statements, as well as to those set forth elsewhere in this prospectus.

RISKS RELATED TO OUR BUSINESS

Our substantial level of indebtedness could adversely affect our financial condition.

We have a significant amount of leverage and interest expense resulting from our indebtedness incurred in the financing and other transactions completed in connection with the Plan, indebtedness of our Canadian subsidiaries, and other indebtedness in respect of certain capital lease obligations.

As of March 31, 2005, we had approximately \$194.3 million of total indebtedness, including \$4.9 million of secured indebtedness, and our 2005 consolidated annual debt service requirements are expected to aggregate approximately \$26.8 million. Although we issued \$193 million aggregate principal amount at maturity of our 11¾% senior notes, such notes were issued at a discount of 2.325% resulting in gross proceeds to us of approximately \$188.5 million. Thus, while not receiving gross proceeds equal to the principal amount of our 11¾% senior notes, we are obligated to repay the full principal amount thereof at maturity and we may not optionally redeem the notes prior to maturity except under limited circumstances.

While the principal amount of our indebtedness has been reduced, our annual interest expense is higher than it was prior to the effective date of the Plan and our total annual debt service requirements continue to be substantial. The funds required to satisfy these requirements, which will derive principally from our operating cash flows, will not be available for working capital or to make investments in the future growth and development of our business.

Our high level of indebtedness and annual debt service requirements could, for example:

- make it more difficult for us to satisfy our obligations on the notes;
- require us to dedicate a substantial portion of our cash flow from operations to interest and principal payments on our indebtedness, thereby reducing the availability of our operating cash flows for other purposes, such as capital expenditures, funding seismic data acquisitions and working capital;
- limit our flexibility in planning for, or reacting to, changes in our business and the industry in which we operate;
- increase our vulnerability to general adverse economic and industry conditions;
- place us at a disadvantage compared to our competitors that have less debt;
- expose us to fluctuations in the interest rate environment because our revolving credit facility is at a variable rate of interest; and
- limit our ability to borrow additional funds.

If, for any reason, we do not have sufficient funds from operating cash flows, cash and cash equivalents on hand, and borrowings available under our revolving credit facilities to pay principal and interest, when due, on the 11¾% senior notes and on our other outstanding debt obligations (including borrowings under our revolving credit facilities), we will be required to seek to refinance all or a portion of our existing debt, sell assets or seek to borrow additional funds or raise additional equity capital. We cannot guarantee that we would be able to complete any of the aforementioned refinancing transactions on terms that are commercially reasonable or otherwise acceptable to us, if at all. In addition, the terms of our agreements governing our indebtedness, including our revolving credit facilities and the indenture governing our 11¾% senior notes, presently restrict us from implementing such refinancing transactions. The failure to generate sufficient operating cash flows could significantly and adversely affect our ability to pay principal of and interest on our 11¾% senior notes. Our ability to generate sufficient cash flow will be dependent upon our future performance, which will be subject to economic conditions and to industry, business and other factors affecting our operations, many of which are beyond our control.

Our revolving credit facility in the U.S. with WFF contains covenants requiring us to achieve and maintain certain financial results, and restricts, among other things, the amount of our capital expenditures and our ability to borrow money, grant additional liens on our assets, make particular types of investments and restricted payments, sell our assets, and merge or consolidate. Additionally, the indenture governing the notes contains covenants that, among other things, limit our ability to incur certain additional indebtedness, incur indebtedness that is subordinate to any other indebtedness unless such indebtedness is expressly subordinate to the notes and the guarantees, pay cash dividends or make other cash distributions on or repurchase or redeem for cash our capital stock, make certain investments, sell assets without using the net proceeds thereof as set forth in the indenture, make certain capital expenditures in excess of \$65 million plus unused excess cash flow (as defined in the indenture) in any fiscal year, grant and permit certain liens, enter into sale-leaseback transactions, enter into agreements affecting the ability of our restricted subsidiaries to pay dividends, enter into transactions with affiliates, merge, consolidate or sell all or substantially all of our assets, and grant security interests or liens on our assets. Borrowings under the revolving credit facility in the U.S. are secured by a first priority, perfected security interest in, and lien on, all of our U.S. tangible and intangible assets, and we have pledged to WFF all of the issued and outstanding capital stock of our U.S. subsidiaries, Any default in respect of these covenants could materially and adversely affect our ability to conduct our business in the ordinary course, enter into business transactions and impair our rights under our other commercial agreements.

Failure to comply with the final judgment of the Securities & Exchange Commission of permanent injunction entered on consent against us could adversely affect our business, and could subject us to further investigations, enforcement action, criminal prosecution and significant penalties.

Seitel was the subject of a formal investigation by the Division of Enforcement of the Securities & Exchange Commission (the "SEC"). Seitel cooperated fully with the SEC during the course of its investigation, and reached a consensual resolution of the SEC's civil complaint resulting in its consent to a final judgment of permanent injunction (the "SEC Injunction") being entered on June 16, 2003 in the United States District Court for the Southern District of Texas, Houston Division. The agreement for the entry of the SEC Injunction was without admitting or denying the allegations in the SEC's complaint, which had alleged violations of the reporting, books and records, internal controls and proxy statement provisions of the Exchange Act and rules and regulations adopted under the Exchange Act. Seitel's chief executive officer and chief financial officer at the time of the events giving rise to the SEC's complaint have been replaced.

The SEC Injunction, by its terms, permanently restrains and enjoins us from, among other things: (1) filing with the SEC any annual report under the Exchange Act that contains any untrue statement of a material fact, which omits to state any material fact necessary in order to make the statements made, in the light of the circumstances under which they were made, not misleading, or that omits to disclose any information required to be disclosed, (2) failing to make and keep accurate books, records and accounts, (3) failing to devise and maintain an adequate system of internal accounting controls and procedures, or (4) soliciting any proxy or consent or authorization in respect of any security registered under Section 12 of the Exchange Act in contravention of the SEC's proxy rules, or making any solicitation

by means of any proxy statement, form of proxy, notice of meeting or other communication subject to the SEC's proxy rules which, at the time and in light of the circumstances under which it is made, is false or misleading with respect to any material fact, or which omits to state any material fact necessary in order to make the statements made, in light of the circumstances under which they were made, not misleading.

If we fail to comply with any of the provisions of the SEC Injunction, such failure could adversely affect us, and the market price of our common stock could significantly decline.

Limitations on our ability to utilize net operating losses and other tax benefits may result in future net operating income being taxable income.

Companies, which have had a change in ownership as defined by the Internal Revenue Code, are subject to limitations on certain tax attributes. The testing period for ownership changes is a three-year moving period. We have had significant ownership changes since the effective date of the Plan, but do not yet know whether there has been a change in ownership as defined by the Internal Revenue Code. In any event, we do not expect a significant impact to our financial position or results of operation because we have a full valuation allowance against the tax attributes subject to these limitations.

Our internal controls for financial reporting and our disclosure controls and procedures may not prevent all possible errors that could occur. Internal controls for financial reporting and disclosure controls and procedures, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objective will be met.

Each quarter, our chief executive officer and chief financial officer evaluate our internal controls for financial reporting and our disclosure controls and procedures, which includes a review of the objectives, design, implementation and effect of the controls in respect of the information generated for use in our periodic reports. In the course of our controls evaluation, we seek to identify data errors, control problems and to confirm that appropriate corrective action, including process improvements, were being undertaken. The overall goals of these various evaluation activities are to monitor our internal controls for financial reporting and our disclosure controls and procedures and to make modifications as necessary. Our intent in this regard is that our internal controls for financial reporting and our disclosure controls and procedures will be maintained as dynamic systems that change (including with improvements and corrections) as conditions warrant.

A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be satisfied. Our management has concluded that our internal controls for financial reporting and our disclosure controls and procedures are designed to give a reasonable assurance that they are effective to achieve their objectives. We cannot provide absolute assurance that all possible future control issues within our company have been detected. These inherent limitations include the possibility that judgments in our decision-making could be faulty, and that isolated breakdowns could occur because of simple human error or mistake. The design of our system of controls is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed absolutely in achieving our stated goals under all potential future or unforeseeable conditions. Because of the inherent limitations in a cost-effective control system, misstatements due to error could occur and not be detected.

Our business could be adversely affected by low exploration and development spending by oil and gas companies and by low oil and gas prices.

Our business depends upon exploration and development spending by oil and gas companies. Capital expenditures by oil and gas companies depend upon several factors, including actual and forecasted petroleum commodity prices and the companies' own short-term and strategic plans. These capital expenditures may also be affected by worldwide economic conditions. There can be no assurance that oil and gas prices will not decline in the future. Low oil and gas

prices could result in decreased exploration and development spending by oil and gas companies, which could affect our seismic data business. Any future decline in oil and gas prices or sustained periods of reduced capital expenditures by oil and gas companies could result in a material adverse effect on our results of operations and cash flow.

A downturn in the availability of private equity could have a negative impact on the ability of our customers to raise capital necessary to purchase our seismic data.

Many of our customers consist of independent oil and gas companies and private prospect-generating companies that rely primarily on private equity capital to fund their exploration, production, development and field management activities. A significant downturn in the availability of private equity capital could have a material adverse impact on the ability of such companies to obtain funding necessary to purchase our seismic data which, in turn, could have a material adverse effect on our results of operations and cash flow.

We invest significant amounts of money in acquiring and processing seismic data for our data library with only partial underwriting of the costs by customers.

We invest significant amounts of money in acquiring and processing new seismic data to add to our data library. A portion of these investments is funded by our customers, while the remainder is sought to be recovered through future data licensing fees. The amounts of underwriting and of these future data licensing fees are uncertain and depend on a variety of factors, including the market prices of oil and gas, customer demand for seismic data in our library, availability of similar data from competitors and governmental regulations affecting oil and gas exploration. We may not be able to recover all of the costs of or earn any return on such investments. In periods where sales do not meet original expectations, we may be required to record additional amortization and/or impairment charges to reduce the carrying value of our data library, which charges may be material to operating results in any period.

Because our business is concentrated in the U.S. Gulf Coast and Canada, it could be adversely affected by developments in the oil and gas business that affect these areas.

While we have seismic surveys in other areas, most of the seismic data in our library covers areas along the U.S. Gulf Coast, offshore in the U.S. Gulf of Mexico and in Canada. Because of this geographic concentration, our results of operations and our cash flow could be materially and adversely affected by events relating primarily to one of these regions even if conditions in the oil and gas industry worldwide were favorable.

Extensive governmental regulation of our business affects our operations.

Our operations are subject to a variety of federal, provincial, state, foreign and local laws and regulations, including environmental laws. We invest financial and managerial resources to comply with these laws and related permit requirements. Failure to timely obtain required permits may result in delays in acquiring new data for the data library or cause operating losses. Because these laws and our business may change from time to time, we cannot predict the future cost of complying with these laws, and expenditures to ensure our compliance could be material in the future. Modification of existing laws or regulations or adoption of new laws or regulations limiting exploration or production activities by oil and gas companies could adversely affect us by reducing the demand for our seismic data.

Our competitors may have certain advantages.

Competition among geophysical service providers historically has been, and will continue to be, intense. Certain competitors have significantly greater financial and other resources than we do. These larger and better-financed operators could enjoy an advantage over us in a competitive environment for contract awards and data sales and in the development of new technologies.

Our operating results and cash flows may vary due to circumstances beyond our control.

Our operating results and available cash flow may, in the future, vary in material respects from period to period. Factors that could cause variations include (1) timing of the receipt and commencement of contracts for data acquisition, (2) our customers' budgetary cycles and their effect on the demand for geophysical activities, (3) seasonal factors and (4) the timing of sales and selections of significant geophysical data from our data library, which are not typically made in a linear or consistent pattern. We cannot assure you that our future performance will not be adversely affected by such economic conditions and financial, business and other factors. Reduced actual or estimated future revenues may result in a requirement to record impairment charges to reduce the carrying value of our data library. Technological or regulatory changes or other developments could also adversely affect the value of the data. Such charges, if required, could be material to operating results in the periods in which they are recorded. For purposes of evaluating potential impairment losses, we estimate the future cash flows attributable to a library component by evaluating historical revenue trends, oil and gas prospectivity in particular regions, general economic conditions affecting our customer base, expected changes in technology and other factors that we deem relevant. The estimation of future cash flows is highly subjective, inherently imprecise and could change materially from period to period based on the factors described in the immediately preceding sentence, among others. Accordingly, if conditions change in the future, we may record impairment losses relative to our seismic data library, which could be material to our results of operations in any particular reporting period.

We may face risks associated with our foreign revenue generating activities.

Portions of our revenues are derived from our Canadian activities and operations and, as a result, are denominated in Canadian dollars. We are subject to foreign currency exchange rate risk on cash flows related to sales, expenses, financing and investing transactions in currencies other than the U.S. dollar. Foreign currency fluctuations could result in a material adverse affect our results of operations.

We may be unable to attract and retain key employees.

Our success depends upon attracting and retaining highly skilled geophysical professionals and other technical personnel. A failure to continue to attract and retain such individuals could adversely affect our ability to compete in the geophysical services industry. We may confront significant and potentially adverse competition for key personnel, particularly during periods of increased demand for geophysical services. Our success also will depend to a significant extent upon the abilities and efforts of members of our senior management, the loss of whom could adversely affect our business. Moreover, certain of our senior executive officers have a very limited history of working together and may not be able to develop an effective working relationship. Our president and chief executive officer was appointed in December 2004, after serving as our chief financial officer since May 2004. Currently, we are working to fill our chief financial officer position. The failure of our executive officers and management personnel to develop an effective or sustained working relationship could require us to incur additional expenses and devote substantial senior management time and resources to identify qualified replacement personnel.

Only our president and chief executive officer and our chief operating officer have an employment or other retention agreement with us. We cannot be certain that our senior executives will continue to be employed by us for an indefinite period of time and, if they do, how long they will remain so employed. Our inability to attract and retain key personnel could have a material adverse effect on our ability to manage our business properly.

Mellon HBV and VA Partners, L.L.C. each own a large percentage of our common stock, which would enable them to influence the election of our directors and other matters requiring the vote of our stockholders.

Mellon HBV and its affiliates have represented to us that they beneficially own 36,518,051 shares (or 21.8%) of our outstanding common stock on a fully diluted basis. VA Partners, L.L.C. ("ValueAct") and its affiliates have represented to us that they own 22,078,563 shares (or 14.5%) of our outstanding common stock. This substantial ownership of our common stock enables Mellon HBV and ValueAct to significantly influence the election of our directors, with respect to which there is cumulative voting, and possibly other corporate matters and transactions that

require stockholder approval.

RISKS RELATED TO THIS OFFERING, THE SECURITIES MARKETS AND OWNERSHIP OF OUR SECURITIES

Substantial sales of our common stock by Mellon HBV, ValueAct or us could cause our stock price to decline and issuances by us may dilute your ownership interest in our company.

Although the registration statement of which this prospectus is a part was filed as a result of a demand by Mellon HBV, we are unable to predict the amount or timing of sales by Mellon HBV or ValueAct of our common stock. Any sales of substantial amounts of our common stock in the public market by Mellon HBV, ValueAct or us, or the perception that these sales might occur, could lower the market price of our common stock, perhaps significantly. Further, if we issue additional equity securities to raise additional capital, your ownership interest in our company may be diluted and the value of your investment may be reduced.

We have no plans to pay regular dividends on our common stock, so stockholders may not receive funds without selling their common stock.

We do not intend to declare or pay any cash dividends on our common stock in the foreseeable future. Covenants within our revolving credit facility, our 11¾% senior notes and the indenture governing such notes restrict our ability to pay cash dividends on our capital stock. Future declaration and payment of cash dividends, if any, on our common stock will be determined in light of factors deemed relevant by our board of directors, including our earnings, operations, capital requirements and financial condition and restrictions in our financing agreements. Accordingly, investors may have to sell some or all of their common stock in order to generate cash flow from their investment. Investors may not receive a gain on their investment when they sell our common stock and may lose the entire amount of the investment.

The price of our common stock may be volatile.

The market price of our common stock could be subject to significant fluctuations after this offering and may decline below the public offering price. You may not be able to resell your shares at or above the public offering price. The stock markets in general have experienced extreme volatility that has at times been unrelated to the operating performance of particular companies. These broad market fluctuations may adversely affect the trading price of our common stock.

Provisions in our charter documents may inhibit a takeover, which could adversely affect the value of our common stock.

Our amended and restated certificate of incorporation and amended and restated bylaws contain provisions that could delay or prevent a change of control or changes in our management that a stockholder might consider favorable. These provisions include:

- classification of the members of our board of directors into three classes, with each class serving a staggered three-year term;
- requiring our stockholders to give advance notice of their intent to submit a proposal at an annual meeting of the stockholders;
- the denial of any right of our stockholders to remove members of our board of directors except for cause, as long as the board of directors remains divided into classes; and
- the denial of the right of our stockholders to call special meetings of the stockholders except upon written request of at least 10% of all votes entitled to be cast on the matter to be considered at the special meeting.

These provisions apply even if a takeover offer may be considered beneficial by our stockholders. If a change of control or change in management proposal is delayed or prevented, the market price of our common stock could decline.

Purchasers of common stock upon exercise of warrants in this offering will experience immediate and substantial dilution in net tangible book value per share.

Dilution per share represents the difference between the offering price and the net consolidated book value per share immediately after the offering of our common stock. Assuming exercise of all the warrants, the purchasers of our common stock upon exercise of the warrants will experience immediate dilution of \$0.75 in net tangible book value per share as of March 31, 2005, based on the warrant exercise price of \$0.72 per share.

There is no established trading market for the new warrants, and you may not be able to sell them quickly, at any particular time you select, or at the price that you originally paid.

There is no established trading market for the warrants. We do not intend to apply for the warrants to be listed on any national securities exchange or to arrange for their quotation on any U.S. automated inter-dealer quotation system of a registered national securities association.

We cannot assure you that you will be able to sell your warrants at any particular time you may select or that prices that you receive when you attempt to sell your warrants will be greater than or equal to the price you originally paid. We also cannot assure you as to the availability of any willing purchasers of the warrants. Future trading prices and the liquidity in any market for the warrants, to the extent such a market ever develops, will depend on many factors, including:

- our reputation, competitive position, operating performance and financial condition;
- the interest of securities dealers in making a market for the warrants; and
- the market for similar securities.

It is possible that the market for the warrants, if any, will be subject to disruptions. Any disruptions would likely have a negative effect on the warrants, regardless of our prospects, operating performance and financial condition.

CAUTIONARY STATEMENT CONCERNING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act. Statements contained in this prospectus about our future outlook, prospects, strategies and plans, and about industry conditions, demand for seismic services and the future economic life of our seismic data are forward-looking. All statements that express belief, expectation, estimates or intentions, as well as those that are not statements of historical fact, are forward looking. The words "proposed," "anticipates," "anticipated," "will," "would," "should," "estimates" and similar expressions are intended to identify forward-looking statements. Forward-looking statements represent our reasonable present belief and are based on our current expectations and assumptions with respect to future events. While we believe our expectations and assumptions are reasonable, they involve risks and uncertainties beyond our control that could cause the actual results or outcome to differ materially from the expected results or outcome. Such risks and uncertainties include, without limitation:

- our ability to comply with the terms of our final judgment of permanent injunction by the SEC;
- the impact on our results of operations of our significant amount of debt;
- our significant amount of debt service and interest expense;
- our ability to obtain and maintain normal terms with our vendors and service providers;
- our ability to maintain contracts that are critical to our operations;
- changes in the oil and gas industry or the economy generally;
- changes in the exploration budgets of our seismic data customers;
- actual customer demand for our seismic data and related services;
- the timing and extent of changes in commodity prices for natural gas, crude oil and condensate and natural gas liquids;
- conditions in the capital markets and equity markets during the periods covered by the forward-looking statements; and
- our ability to obtain alternate debt or equity financing on satisfactory terms if internally generated funds are insufficient to fund our capital needs.

The forward-looking statements contained in this prospectus speak only as of the date hereof. Except as required by the federal and state securities laws, we undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or any other reason. All forward-looking statements attributable to Seitel or any person acting on its behalf are expressly qualified in their entirety by the cautionary statements contained or referred to in this prospectus and in our future periodic reports filed with the SEC. In light of these risks, uncertainties and assumptions, the forward-looking events discussed in this prospectus may not occur.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the informational requirements of the Exchange Act, and in accordance therewith, file reports, proxy statements and other information with the SEC. These reports, proxy statements and other information can be inspected and copied at the SEC's Public Reference room at 450 Fifth Street, N.W., Washington, D.C. 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. In addition, the SEC maintains an Internet site at http://www.sec.gov that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. We maintain an Internet site at http://www.seitel.com.

We have filed a registration statement with the SEC on Form S-3 (including any amendments thereto, known as the registration statement) under the Securities Act of 1933, as amended (the "Securities Act"), with respect to the shares of common stock offered by the selling stockholders hereby. This prospectus does not contain all of the information set forth in the registration statement and the exhibits and schedules thereto. You may refer to the registration statement and the exhibits and schedules thereto for more information about our securities and us. Statements made in this prospectus regarding the contents of any contract or document filed as an exhibit to the registration statement are not necessarily complete and, in each instance, reference is hereby made to the copy of such contract or document so filed. Each such statement is qualified in its entirety by such reference.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The following documents, which have previously been filed by us with the SEC under the Exchange Act, are incorporated herein by reference:

- (1) Our annual report on Form 10-K for the fiscal year ended December 31, 2004.
- (2) Our quarterly report on Form 10-Q for the quarterly period ended March 31, 2005.
- (3) Our current reports on Form 8-K filed on January 4, 2005, January 7, 2005, February 16, 2005, March 11, 2005, March 28, 2005, April 4, 2005 and May 6, 2005.
- (4) The description of our common stock contained in our registration statement on Form 8-A filed on June 28, 2004.

All documents filed by us pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (excluding any information in those documents that is deemed by the rules of the SEC to be furnished, not filed) after the date of this prospectus and prior to the termination of this offering shall be deemed to be incorporated in this prospectus by reference and to be a part hereof from the date of filing of such documents. Any statement contained herein, or in a document incorporated or deemed to be incorporated by reference herein, shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained herein or in any subsequently filed document which also is or is deemed to be incorporated by reference herein, modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

This prospectus incorporates documents by reference that are not delivered herewith. Copies of these documents, other than the exhibits thereto (unless such exhibits are specifically incorporated by reference in such documents), are available upon written or oral request, at no charge, from us. Requests for such copies should be directed to Marcia H. Kendrick, Senior Vice President, Chief Accounting Officer, Acting Secretary and Acting Chief Financial Officer, at 10811 S. Westview Circle, Building C, Suite 200, Houston, Texas 77043, or at (713) 881-8900.

USE OF PROCEEDS

We will not receive any of the proceeds from the resale of the warrants or the resale of the shares of common stock. We will, however, receive proceeds from the exercise of the warrants. Each warrant, when exercised, will entitle the holder to receive a certain number of shares at an initial exercise price of \$0.72 per share. Therefore, if all of the outstanding warrants registered hereby are exercised at the initial exercise price, we will issue 15,037,568 shares of our common stock and we will receive gross proceeds of approximately \$10,827,049. Any proceeds received by us from the exercise of the warrants will be used for general corporate purposes, which may include capital expenditures, debt service and working capital.

DILUTION

Our net tangible book value at March 31, 2005 was a deficit of approximately \$15.6 million or \$0.10 per share. After giving effect to the application of the aggregate proceeds assuming exercise of all of the warrants, our pro forma net tangible book value at March 31, 2005 would have been a deficit of approximately \$4.8 million or \$0.03 per share. This represents an immediate increase in net tangible book value of \$0.07 per share to existing stockholders and an immediate dilution in net tangible book value of \$0.75 per share to purchasers of common stock upon exercise of the warrants. The following table illustrates this per share dilution:

Exercise price	\$ 0.72
Net tangible book value prior to this Offering	(0.10)
Increase per share attributable to sales of shares in this Offering.	0.07
Pro forma net tangible book value after this Offering	(0.03)
Dilution in net tangible book value to purchasers in this Offering	0.75
	\$

SELLING STOCKHOLDERS

The following table sets forth, as of May 12, 2005, certain information known to us concerning each of the selling stockholders. Assuming that the selling stockholders offer all of their shares of our common stock, the selling stockholders will not have any beneficial ownership except as otherwise provided in the table below. Because the selling stockholders may from time to time offer some or all of their warrants, shares of our common stock issuable upon exercise of the warrants or shares of common stock currently held, we cannot estimate the number of warrants or shares of our common stock that will be held by the selling stockholders upon termination of any particular offering by such selling stockholder. See "Plan of Distribution."

Common Stock

		Number of		
Selling Stockholders	Number of Shares Owned and to be Owned Prior to Offering(1)	Shares Being Offered(1)	Number of Shares Owned After Offering(2)	Percentage of Shares Owned After Offering(2)
Mellon HBV Master Rediscovered				
Opportunities Fund LP (3)	9,929,786	9,929,786	-	-%
Mellon HBV Master Multi-Strategy Fund				
LP (3)	16,090,718	16,090,718	-	-%
Mellon HBV Leveraged Master				
Multi-Strategy Fund LP (3)	2,624,806	2,624,806	-	-%
Mellon HBV Capital Partners LP (3)	642,869	642,869	-	-%
AXIS-RDO Limited (3).	1,154,023	1,154,023	-	-%
Lyxor/Mellon HBV Rediscovered				
Opportunities Fund Ltd. (3)	2,238,236	2,238,236	-	-%
HFR DS Performance Master Trust (3)	1,224,599	1,224,599	-	-%
Mellon HBV Master U.S. Event Driven				
Fund LP (3)	1,119,068	1,119,068	-	-%
Distressed Recovery Master Fund Ltd. (3)	1,493,946	1,493,946	-	-%

⁽¹⁾ Ownership is determined in accordance with Rule 13d-3 under the Exchange Act. The actual number of shares beneficially owned and offered for sale is subject to adjustment and could be materially less or more than the estimated account indicated depending upon factors which we cannot predict at this time. Includes 15,037,568 shares of common stock underlying the common stock purchase warrants.

⁽²⁾ Assumes the sale of all shares that may be sold under this prospectus.

⁽³⁾ Mellon HBV, which is an indirect wholly owned subsidiary of Mellon Financial Corporation, has entered into investment advisory, manager and/or sub-manager agreements that grant Mellon HBV complete control over the management of all securities investment, re-investment and trading activities of this selling stockholder. Accordingly, Mellon HBV has sole voting and dispositive power with respect to all shares of common stock held of record by this selling stockholder.

Common Stock Purchase Warrants

Number of

	N. A. GW	Warrants Being	N. 1 6337	Percentage of
Selling Stockholders	Number of Warrants Owned and to be Owned Prior to Offering (1)	Offered	Number of Warrants Owned After Offering(2)	Warrants Owned After Offering(2)
Mellon HBV Master Rediscovered	5 ()		G. 7	G. ,
Opportunities Fund LP	1	1	-	-%
Mellon HBV Master Multi-Strategy				
Fund LP	1	1	-	-%
Mellon HBV Leveraged Master				
Multi-Strategy Fund LP	1	1	-	-%
Mellon HBV Capital Partners LP	1	1	-	-%
AXIS-RDO Limited	1	1	-	-%
Lyxor/Mellon HBV Rediscovered				
Opportunities Fund Ltd	1	1	-	-%
HFR DS Performance Master Trust	1	1	-	-%
Mellon HBV Master U.S. Event Driven				
Fund LP	1	1	-	-%
Distressed Recovery Master Fund Ltd.	1	1	-	-%

OUR RELATIONSHIP WITH MELLON HBV

On January 5, 2004, we entered into a standby purchase commitment (the "Standby Commitment Letter") with Mellon HBV, which currently beneficially owns 21.8% of the outstanding shares of our common stock on a fully diluted basis. Under this agreement, Mellon HBV agreed (for itself and on behalf of certain of its affiliated funds and managed accounts) to purchase, at \$0.60 per share, after the expiration of the Stockholder Warrants on August 2, 2004, but in no event later than August 12, 2004, all shares of reorganized common stock not purchased upon the exercise of the Stockholder Warrants. On August 12, 2004, Mellon HBV fulfilled its standby purchase commitment and purchased from us, at \$0.60 per share, 5,873,846 shares of our common stock not purchased as a result of the exercise of Stockholder Warrants, for an aggregate of \$3,524,307. As compensation for Mellon HBV's obligation, we issued to them on August 12, 2004 the Standby Purchaser Warrants. Such warrants are exercisable until August 12, 2011 at an initial exercise price of \$0.72 per share, subject to adjustment upon the occurrence of certain events. See "Description of Warrants." Pursuant to the Plan, Mellon HBV designated Robert Kelley and J.D. Williams as directors on our board of directors as of the effective date of the Plan.

Mellon HBV was required by the holders of our previously outstanding \$255 million senior notes to obtain an irrevocable standby letter of credit to secure all performance obligations under the Standby Commitment Letter. We reimbursed Mellon HBV for the fees associated with this letter of credit totaling \$2.5 million. Additionally, we reimbursed the Standby Purchasers for fees and expenses of approximately \$1.1 million incurred in connection with the negotiation, preparation, execution and delivery of the Standby Commitment Letter. Such amounts are reflected in

⁽¹⁾ Represents the warrants to purchase 15,037,568 shares of common stock issued to the Standby Purchasers as consideration for their obligations under the Standby Commitment Letter. See "Our Relationship with Mellon HBV" below.

⁽²⁾ Assumes the sale of all warrants that may be sold under this prospectus.

reorganization items in our Consolidated Statement of Operations for the year ended December 31, 2004, which is contained in the consolidated financial statements included in our 2004 annual report on Form 10-K.

We also entered into a registration rights agreement with Mellon HBV on the effective date of the Plan, providing registration rights for certain of our securities held by (or issuable to) the Standby Purchasers. The registration statement of which this prospectus is a part was filed in response to a demand for registration from Mellon HBV.

The foregoing does not purport to be a complete description of all of the terms, provisions and conditions of the Standby Commitment Letter. Reference is made to the complete Standby Commitment Letter, a copy of which is filed as an exhibit to the registration statement of which this prospectus is a part, for its full terms, provisions and conditions.

PLAN OF DISTRIBUTION

This prospectus relates to:

- the resale of 36,518,051 shares of our common stock (including any shares issued upon exercise of any outstanding warrants) owned by the selling stockholders;
- the resale of outstanding warrants to purchase 15,037,568 shares of common stock owned by the selling stockholders on the date hereof; and
- the issuance of shares of our common stock upon any exercise of the warrants by holders subsequent to the selling stockholder.

The common stock and warrants may be sold from time to time to purchasers:

- directly by the selling stockholders and their successors, which includes their transferees, pledgees or donees or their successors; or
- through underwriters, broker-dealers or agents who may receive compensation in the form of discounts, concessions or commissions from the selling stockholders or the purchasers of the securities. These discounts, concessions or commissions may be in excess of those that are customary for the types of transactions involved.

The selling stockholders and any underwriters, broker-dealers or agents who participate in the distribution of the securities may be deemed to be "underwriters" within the meaning of the Securities Act. As a result, any profits on the sale of the securities by selling stockholders and any discounts, commissions or concessions received by any such broker-dealers or agents may be deemed to be underwriting discounts, and "underwriters" within the meaning of the Securities Act will be subject to prospectus delivery requirements of the Securities Act. If the selling stockholders are deemed to be underwriters, the selling stockholders may be subject to certain statutory liabilities, including, without limitation, liabilities under Sections 11, 12 and 17 of the Securities Act and Rule 10b-5 under the Exchange Act. If the securities are sold through underwriters, broker-dealers or agents, the selling stockholders will be responsible for paying any underwriting discounts or commissions or agent's commissions.

The securities may be sold in one or more transactions at:

- fixed prices;
- prevailing market prices at the time of sale;
- prices related to such prevailing market prices;
- varying prices determined at the time of sale; or
- negotiated prices.

These sales may be effected in transactions:

• on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of the sale:

- in the over-the-counter market;
- otherwise than on such exchanges or services or in the over-the-counter market;
- through the writing and exercise of options, whether such options are listed on an options exchange or otherwise; or
- through the settlement of short sales.

These transactions may or may not involve brokers or dealers, and may include block transactions or crosses. Crosses are transactions in which the same broker acts as an agent on both sides of the trade.

In connection with the sales of the securities or otherwise, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions. These broker-dealers or other financial institutions may in turn engage in short sales of the securities in the course of hedging their positions. The selling stockholders may also sell the securities short and deliver securities to close out short positions, or loan or pledge the securities to broker-dealers that in turn may sell securities.

To our knowledge, there are currently no plans, arrangements or understandings between any selling stockholders and any underwriter, broker-dealer or agent regarding the sale of the securities.

At the time a particular offering is made, if required, a prospectus supplement will be distributed, which will set forth the names of the selling stockholders, the aggregate amount and type of securities being offered, the price at which the securities are being sold and other material terms of the offering, including the name or names of any underwriters, broker-dealers or agents, any discounts, commissions and other terms constituting compensation from the selling stockholders and any discounts, commissions or concessions allowed or reallowed to paid broker-dealers. In addition, if we are notified by a selling stockholder that a donee or pledgee intends to sell more than 500 shares we will file a supplement to this prospectus.

We cannot be certain that any selling stockholder will sell any or all of the securities pursuant to this prospectus. Further, we cannot assure you that any such selling stockholder will not transfer, devise or gift the securities by other means not described in this prospectus. In addition, any security covered by this prospectus that qualifies for sale pursuant to Rule 144 of the Securities Act may be sold under Rule 144 rather than under this prospectus. The securities may be sold in some states only through registered or licensed brokers or dealers. In addition, in some states the securities may not be sold unless they have been registered or qualified for sale or an exemption from registration or qualification is available and complied with.

The selling stockholders and any other person participating in the sale of the securities will be subject to the Exchange Act. The Exchange Act rules include, without limitations Regulation M, which may limit the timing of purchases and sales of any of the securities by the selling stockholders and any other such person. In addition, Regulation M may restrict the ability of any person engaged in the distribution of the securities and the ability of any person or entity to engage in market-making activities with respect to the securities.

We have agreed to indemnify the selling stockholders against certain liabilities, including liabilities under the Securities Act, arising out of or based upon any untrue statement or alleged untrue statement of any material fact contained in the registration statement of which this prospectus is a part, any preliminary prospectus, final prospectus or summary prospectus contained therein, or any amendment or supplement thereto, or any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein (in the case of a prospectus, in the light of the circumstances under which they were made) not misleading.

The selling stockholders have agreed to indemnify us against certain liabilities, including liabilities under the Securities Act, arising out of or are based upon any untrue statement or alleged untrue statement of any material fact contained in the registration statement of which this prospectus is a part, any preliminary prospectus, final prospectus or summary prospectus contained therein, or any amendment or supplement thereto, or any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein (in the case of a prospectus, in the light of the circumstances under which they were made) not misleading, if such untrue statement or alleged untrue statement or omission or alleged omission was made in reliance upon and in conformity with written information furnished to us through an instrument duly executed by such selling stockholder specifically stating that it is for use in the preparation of such registration statement, preliminary prospectus, final prospectus, summary prospectus, amendment or supplement.

We have agreed to pay substantially all of the expenses incidental to the registration, offering and sale of the common stock to the public, other than commissions, fees and discounts of underwriters, brokers, dealers and agents.

DESCRIPTION OF CAPITAL STOCK

For a description of the general terms of our common stock, please refer to our registration statement on Form 8-A filed on June 28, 2004, which is incorporated herein by reference. We have also filed our amended and restated certificate of incorporation and amended and restated bylaws as exhibits to the registration statement of which this prospectus is a part and reference is made to these documents for any provisions describing our common stock. See "Where You Can Find Additional Information" above for information about how you can obtain copies of any of the above mentioned documents.

DESCRIPTION OF WARRANTS

The warrants may be exercised in whole or in part at any time and from time to time until their expiration at 5:00 P.M. (New York City time) on August 12, 2011. Each warrant entitles the holder to purchase a specified number of shares of our common stock at an initial exercise price of \$0.72 per share. This exercise price will be adjusted if specific events, summarized below, occur. A holder of warrants will not be deemed a holder of the underlying common stock for any purpose until the warrant is exercised. To exercise a warrant, the holder must deliver to us the warrant certificate and the exercise notice (with signature guaranteed as provided in Section 17A(d) of the Exchange Act) on or before the expiration date, accompanied by payment of the full exercise price for the number of warrants being exercised. Fractional shares of common stock will not be issued upon exercise of the warrants. The holder of a warrant may sell, transfer, assign, pledge or otherwise dispose of the warrant in whole or in part by delivering a written notice to us.

The exercise price of the warrants will be adjusted if we:

- reclassify or change our outstanding common stock or consolidate or merge with or into another corporation or sell, transfer or lease all or substantially all of our assets;
- declare stock dividends to stockholders or effect any split or share combination with regard to our common stock; or
- makes a distribution in connection with a liquidation.

If we effect stock split or stock combination, the exercise price in effect immediately before the stock split or combination will be proportionately reduced or increased, as the case may be. Any adjustment of the exercise price will also result in an adjustment of the number of shares underlying a warrant pursuant to the terms and conditions of the warrant.

This description does not purport to be complete and is subject to and qualified in its entirety by reference to the form of funding guarantor warrant, which we have filed as an exhibit to the registration statement of which this prospectus forms a part and reference is made to such agreement for the complete provisions. See "Where You Can Find Additional Information" above for information about how you can obtain a copy of this document.

LEGAL MATTERS

Certain legal matters in connection with the common stock offered hereby will be passed on for us by Porter & Hedges, L.L.P., Houston, Texas. Any underwriters will be advised about other issues relating to any offering by their own legal counsel.

EXPERTS

The consolidated financial statements of Seitel at December 31, 2004 incorporated in this prospectus by reference from Seitel's Annual Report on Form 10-K as filed with the SEC on March 29, 2004 have been so audited by BKD, LLP, an independent registered public accounting firm, as stated in their report, which is incorporated herein by reference, and have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

The consolidated financial statements of Seitel, Inc. at December 31, 2003, and for each of the two years in the period ended December 31, 2003, appearing in Seitel's Form 10-K for the year ended December 31, 2003, have been audited by Ernst & Young, LLP, independent registered public accounting firm, as set forth in their reports (which contain an explanatory paragraph describing conditions that raise substantial doubt about the company's ability to continue as a going concern as described in Notes A and B to the consolidated financial statements) thereon incorporated by reference. Such consolidated financial statements have been incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

You should rely only on the information contained in this prospectus. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. The selling stockholders are not making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus is accurate as of the date on the front cover of this prospectus only. Our business, financial condition, results of operations and prospects may have changed since that date.

36,518,051 Shares of Common Stock Common Stock Purchase Warrants

Seitel, Inc.

PROSPECTUS

, 2005

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth the various expenses, all of which will be borne by us, in connection with the sale and distribution of the securities being registered, other than the underwriting discounts and commissions. All amounts shown are estimates except for the Securities and Exchange Commission registration fee.

Securities and Exchange Commission registration fee	\$ 5,609 (1)
Accounting fees and expenses	\$ 7,500
Legal fees and expenses	\$ 70,000
Printing and engraving expenses	\$ 10,000
Miscellaneous	\$ 6,891
Total	\$ 100,000

Item 15. Indemnification of Directors and Officers.

The following is a summary of the statutes, charter and bylaw provisions or other arrangements under which the directors and officers of Seitel, Inc. are insured or indemnified against liability in their capacities as such.

Seitel is incorporated under the laws of the State of Delaware. Section 145 of the Delaware General Corporation Law (the "Delaware Statute") provides that a Delaware corporation may indemnify any persons who are, or are threatened to be made, parties to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (a "proceeding"), other than an action by or in the right of such corporation, by reason of the fact that such person is or was an officer, director, employee or agent of such corporation, or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation or enterprise (an "indemnified capacity"). The indemnity may include expenses, including attorneys' fees, judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided such person acted in good faith and in a manner he reasonably believed to be in or not opposed to the corporation's best interests and, with respect to any criminal action or proceeding, had no reasonable cause to believe that his conduct was illegal. Similar provisions apply to actions brought by or in the right of the corporation, except that no indemnification shall be made without judicial approval if the officer or director is adjudged to be liable to the corporation. Where an officer or director is successful on the merits or otherwise in the defense of any action referred to above, the corporation must indemnify him against the expenses which such officer or director has actually and reasonably incurred. The Delaware Statute further authorizes a corporation to purchase and maintain insurance on behalf of any indemnified person against any liability asserted against him and incurred by him in any indemnified capacity, or arising out of his status as such, regardless of whether the corporation would otherwise have the power to indemnify him under the Delaware Statute.

The amended and restated certificate of incorporation of Seitel and the by-laws of Seitel provide that Seitel shall indemnify its directors and officers to the full extent authorized by law. Moreover, the amended and restated certificate of incorporation of Seitel provides that no director shall be liable to Seitel or its stockholders for monetary

⁽¹⁾ Includes \$882.31 previously paid in connection with Seitel's filing of its registration statement on Form S-1, No. 333-113446, on March 10, 2004.

damages for breach of his or her fiduciary duty as a director, provided that nothing contained therein shall eliminate or limit the liability of a director (i) for any breach of the director's duty of loyalty to Seitel or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of the law, (iii) under Section 174 of the Delaware General Corporation Law or (iv) for any transaction for which the director derived an improper personal benefit. If the Delaware General Corporation Law is amended to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of Seitel shall be eliminated or limited to the fullest extent permitted by the Delaware General Corporation Law, as so amended.

Seitel has purchased insurance on behalf of its directors and officers against certain liabilities that may be asserted against, or incurred by, such persons in their capacities as directors or officers of the registrant, or that may arise out of their status as directors or officers of the registrant, including liabilities under the federal and state securities laws.

Item 16. Exhibits.

Exhibit	
No.	Description of Exhibit
3.1	Amended and Restated Certificate of Incorporation of the Company (incorporated by reference from
	Post Effective Amendment No. 1 to the Registration Statement on Form S-1, No. 333-113446, as filed
	with the SEC on July 2, 2004).
3.2	Certificate of Amendment to Amended and Restated Certificate of Incorporation dated December
	15, 2004 (incorporated by reference from the Registration Statement on Form S-4, No. 333-121476, as
	filed with the SEC on December 21, 2004).
3.3	Amended and Restated Bylaws of the Company (incorporated by reference from Exhibit 2.3 to the
	Registration Statement on Form S-4, No. 333-121476, as filed with the SEC on December 21, 2004).
4.1	Registration Rights Agreement, dated as of July 2, 2004 by and between the Company and Mellon
	HBV Alternate Strategies LLC (incorporated by reference from the Registration Statement on Form
	S-4, No. 333-121476, as filed with the SEC on December 21, 2004).
5.1 *	Opinion of Porter & Hedges, L.L.P. with respect to legality of the securities, including consent.
23.1 *	Consent of BKD, LLP.
23.2 *	Consent of Ernst & Young, LLP.
23.3	Consent of Porter & Hedges, L.L.P. (included in Exhibit 5.1).
24.1	Power of Attorney (contained in signature page).
99.1	Standby Funding Commitment Letter, dated as of January 5, 2004, by and between the Company and
	Mellon HBV Alternative Strategies LLC (incorporated herein by reference from Exhibit 99.1 to the
	current report filed on Form 8-K, as filed with the SEC on January 12, 2004).
99.2	Form of Funding Guarantor Warrant entered into between Seitel, Inc. and each of Mellon HBV Master
	Rediscovered Opportunities Fund LP, Mellon HBV Master Multi-Strategy Fund LP, Mellon HBV
	Leveraged Master Multi-Strategy Fund LP, Mellon HBV Master U.S. Event Driven Fund LP, Mellon
	HBV Capital Partners LP, AXIS-RDO Limited, Distressed Recovery Master Fund Ltd., Lyxor/Mellon
	HBV Rediscovered Opportunities Fund Ltd. and HFR DS Performance Master Trust, dated as of
	August 12, 2004 and August 17, 2004 (incorporated by reference from Exhibit 10.9 to Post Effective
	Amendment No. 1 to the Registration Statement on Form S-1, No. 333-113446, as filed with the SEC
	on July 2, 2004).

^{*} Filed herewith.

Item 17. *Undertakings*.

(a) The undersigned registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
- (i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933.
- (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.
- (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) of this section do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and 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 12th day of May, 2005.

SEITEL, INC.

By: /s/ Robert D. Monson

Robert D. Monson

President and Chief Executive Officer

POWER OF ATTORNEY AND SIGNATURES

We the undersigned officers and directors of Seitel, Inc., hereby, severally constitute and appoint Robert D. Monson, Kevin P. Callaghan and Marcia H. Kendrick, and each of them singly, our true and lawful attorneys with full power to them and each of them singly, to sign for us and in our names in the capacities indicated below, the registration statement on Form S-3 filed herewith and any and all pre-effective and post-effective amendments to said registration statement and any subsequent registration statement for the same offering which may be filed under Rule 462(b) and generally to do all such things in our names and on our behalf in our capacities as officers and directors to enable Seitel, Inc. to comply with the provisions of the Securities Act of 1933, and all requirements of the Securities and Exchange Commission, hereby ratifying and confirming our signatures as they may be signed by our said attorneys, or any of them, to said registration statement and any and all amendments thereto or to any subsequent registration statement for the same offering which may be filed under Rule 462(b).

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

Signature	<u>Title</u>	<u>Date</u>
/s/ Robert D. Monson Robert D. Monson	President and Chief Executive Officer (Principal Executive Officer)	May 12, 2005
/s/ Fred S. Zeidman Fred S. Zeidman	Chairman of the Board	May 12, 2005
/s/ Marcia H. Kendrick Marcia H. Kendrick	Senior Vice President, Chief Accounting Officer, Acting Secretary and Acting Chief Financial Officer (Principal Financial and Accounting Officer)	May 12, 2005

/s/ Kevin S. Flannery Kevin S. Flannery	Director	May 12, 2005
/s/ Jay H. Golding Jay H. Golding	Director	May 12, 2005
/s/ Ned S. Holmes Ned S. Holmes	Director	May 12, 2005
/s/ Robert Kelley Robert Kelley	Director	May 12, 2005
/s/ Charles H. Mouquin Charles H. Mouquin	Director	May 12, 2005
/s/ J.D. Williams J.D. Williams	Director	May 12, 2005

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