UNOCAL CORP
Form S-4
September 04, 2002

AS FILED WITH THE SECURITIES AND EXCHANGE COMMISSION ON SEPTEMBER 4, 2002

REGISTRATION NO. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

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

UNOCAL CORPORATION
(Exact name of registrant as specified in its charter)

DELAWARE	1311	95-3825062
(State or other Jurisdiction of Incorporation or Organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Emplo Identification

2141 ROSECRANS AVENUE, SUITE 4000
EL SEGUNDO, CALIFORNIA 90245
(310) 726-7600
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

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APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC: As promptly as practicable after this Registration Statement becomes effective and upon consummation of the transactions described herein.

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

If this Form is filed to register additional securities for an offering

pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. [ ] -----

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

CALCULATION OF REGISTRATION FEE

TITLE OF EACH CLASS OF SECURITIES TO BE REGISTERED	AMOUNT TO BE REGISTERED	PROPOSED MAXIMUM OFFERING PRICE PER SHARE	PROP A OFF
Common Stock, par value $1.00 per share (including the associated Preferred Stock Purchase Rights)...........................	15,570,020 shares(1)	Not Applicable	$553

(1) Represents 50,353,225 outstanding shares of common stock of Pure Resources, Inc. on August 2, 2002 less 32,709,067 shares owned by Union Oil Company of California plus an additional 6,210,630 shares of Pure Resources, Inc. common stock reserved for issuance upon exercise of outstanding stock options on June 30, 2002, multiplied by the exchange ratio of 0.6527. Information as to the number of outstanding shares and stock options of Pure Resources, Inc. has been obtained from Pure Resources, Inc.'s filings with the S.E.C.

(2) Reflects the product of (a) $23.20, the market price of the common stock of Pure Resources, Inc. computed in accordance with Rule 457(c) and 457(f) under the Securities Act, based upon the average of the high and low sale prices of the Pure Resources, Inc. common stock as quoted on the New York Stock Exchange on August 28, 2002 and (b) 23,854,788, the maximum number of shares to be acquired pursuant to the offer. The proposed maximum aggregate offering price is estimated solely to determine the registration fee.

(3) 0.0092% of the Proposed Maximum Aggregate Offering Price.

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 OR UNTIL THIS REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE SECURITIES AND EXCHANGE COMMISSION, ACTING PURSUANT TO SECTION 8(a), MAY DETERMINE.

THE INFORMATION IN THIS PROSPECTUS MAY CHANGE. WE MAY NOT COMPLETE THIS OFFER AND ISSUE SHARES OF OUR COMMON STOCK UNTIL THE REGISTRATION STATEMENT FILED WITH THE SECURITIES AND EXCHANGE COMMISSION TO WHICH THIS PROSPECTUS RELATES IS EFFECTIVE. THIS PROSPECTUS DOES NOT CONSTITUTE AN OFFER TO SELL SHARES OF OUR COMMON STOCK, AND WE ARE NOT SOLICITING OFFERS TO BUY OUR SHARES IN ANY STATE WHERE THE OFFER OR SALE IS NOT PERMITTED.

OFFER BY UNION OIL COMPANY OF CALIFORNIA

TO EXCHANGE

0.6527 OF A SHARE OF COMMON STOCK

(INCLUDING THE ASSOCIATED PREFERRED STOCK PURCHASE RIGHTS)

OF

UNOCAL CORPORATION
FOR
EACH OUTSTANDING SHARE OF COMMON STOCK

OF

PURE RESOURCES, INC.

THIS OFFER, AND YOUR RIGHT TO WITHDRAW SHARES OF PURE COMMON STOCK YOU TENDER INTO THIS OFFER, WILL EXPIRE AT MIDNIGHT, NEW YORK CITY TIME, ON WEDNESDAY, OCTOBER 2, 2002, UNLESS WE EXTEND THIS OFFER.

We are offering to exchange 0.6527 of a share of Unocal Corporation, or Unocal, common stock (including the associated preferred stock purchase rights) for each outstanding share of Pure Resources, Inc., or Pure, common stock, on the terms and conditions contained in this prospectus and in the related letter of transmittal.

Union Oil Company of California, or Union Oil, is a wholly owned subsidiary of Unocal, and we currently own approximately 65% of the outstanding shares of Pure common stock. This offer is conditioned on the tender of a sufficient number of the outstanding shares such that, giving effect to the offer, we own at least 90% of the outstanding shares of Pure common stock.

Our obligation to exchange shares of Unocal common stock for shares of Pure common stock is also subject to other conditions described in this prospectus under "The Offer -- Conditions of the Offer" beginning on page 39. We do not intend to have a subsequent offering period.

If we successfully complete this offer, and own more than 90% of the outstanding common stock of Pure, we would then effect a "short form" merger of one of our wholly owned subsidiaries with Pure. Under Delaware law, this short form merger would be effected without the approval of Pure's board of directors or the remaining holders of Pure's common stock. We intend to effect the merger as soon as practicable after we complete this offer, unless we are prevented from doing so by a court or other legal requirement. Each share of Pure common stock that we do not own or acquire in this offer would be converted in the merger into the right to receive 0.6527 shares of Unocal common stock (including the associated preferred stock purchase rights), unless the holder of the shares of Pure common stock properly perfects appraisal rights under Delaware law. After we complete the merger, Pure will be our wholly owned subsidiary.

SEE "RISK FACTORS" BEGINNING ON PAGE 9 FOR A DISCUSSION OF ISSUES THAT YOU SHOULD CONSIDER IN DETERMINING WHETHER TO TENDER YOUR SHARES INTO THIS OFFER.

Unocal's common stock is listed on the New York Stock Exchange and trades under the symbol "UCL." Pure's common stock is listed on the New York Stock Exchange and trades under the symbol "PRS."

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THE UNOCAL COMMON STOCK TO BE ISSUED IN THIS OFFER AND THE SUBSEQUENT MERGER OR DETERMINED IF THE INFORMATION CONTAINED IN THIS PROSPECTUS IS ACCURATE OR ADEQUATE. ANY REPRESENTATION TO THE

CONTRARY IS A CRIMINAL OFFENSE.

THE DEALER MANAGER FOR THE OFFER IS:
MERRILL LYNCH & CO.

The date of this prospectus is September 4, 2002 and it will be distributed on or about September 5, 2002.

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As permitted under the rules of the SEC, this prospectus incorporates important business and financial information about Unocal and Pure that is contained in documents filed with the SEC but that is not included in or delivered with this prospectus. You may obtain copies of these documents, without charge, from the website maintained by the SEC at www.sec.gov, as well as other sources. See "Where You Can Find More Information" beginning on page 58.

You may also obtain copies of these documents, without charge, upon written or oral request to our information agent, D.F. King & Co., Inc., collect at (212) 269-5550 or toll-free at (800) 769-6414, or from our Dealer Manager for this offer, Merrill Lynch & Co., collect at (609) 274-3066 or toll-free at (866) 276-1462. To obtain timely delivery of copies of these documents, you should request them no later than five business days prior to the expiration of this offer. Unless this offer is extended, the latest you should request copies of these documents is Tuesday, September 24, 2002.

Except as otherwise specifically noted, "we," "our," "us" and similar words in this prospectus refer to Union Oil Company of California, or "Union Oil," and/or Unocal Corporation, or "Unocal." In addition, we refer to Pure Resources, Inc. as "Pure." All references to shares of Unocal common stock also refer to the associated preferred stock purchase rights.

In "Questions and Answers About the Offer" below and in the "Summary" beginning on page 1, we highlight selected information from this prospectus but we have not included all of the information that may be important to you. To better understand the offer and the subsequent merger and for a more complete description of their legal terms, you should read carefully this entire prospectus, including the annexes, as well as the documents we have incorporated by reference into this prospectus. See "Where You Can Find More Information" beginning on page 58.

QUESTIONS AND ANSWERS ABOUT THE OFFER

Q. WHY ARE WE MAKING THE OFFER?

A. We currently own 32,709,067 outstanding shares of Pure's common stock, representing approximately 65% of all of the outstanding shares of Pure's common stock. We are making the offer for the purpose of acquiring all of the remaining outstanding shares of Pure's common stock, in order to combine Pure with Unocal.

Q. WHAT WILL I RECEIVE IN EXCHANGE FOR THE SHARES OF PURE COMMON STOCK THAT I TENDER INTO THE OFFER?

A. If we successfully complete the offer, you will receive 0.6527 of a share of Unocal common stock in exchange for each share of Pure common stock that you validly tender into the offer. We will not issue fractional shares of Unocal common stock. Instead, any Pure stockholder entitled to receive a fractional share of Unocal common stock will receive cash in an amount equal to the fraction, multiplied by the closing price of a share of Unocal common stock on the New York Stock Exchange on the last trading day before the time that the offer expires. See "The Offer -- Cash Instead of Fractional Shares of Unocal Common Stock" on page 32.

Q. WHAT ARE THE POTENTIAL BENEFITS OF THIS OFFER TO PURE STOCKHOLDERS?

A. We believe that this offer should be attractive to Pure stockholders for the reasons described elsewhere in this prospectus as well as for the following reasons:

- based on the closing prices of shares of Unocal's and Pure's common stock on August 20, 2002, the day of our announcement of this offer, the exchange ratio represented a 27% premium over the price of shares of Pure's common stock;

- if we successfully complete the offer, you will hold shares in a

larger combined company:

- which we believe will have greater access to capital to pursue strategic growth opportunities than would Pure on a stand-alone basis; and

- which we believe will have a more liquid market for its shares than Pure on a stand-alone basis;

- as a result of your exchange of shares of Pure common stock for shares of Unocal common stock, you will become entitled to receive dividends from Unocal, which we expect to continue to pay at our current annual rate of $0.80 per share. See "Comparative Per Share Market Price and Dividend Information -- Unocal -- Unocal Dividend Policy" on page 28. Pure does not currently pay a dividend with respect to its shares and has stated that it plans to retain all future earnings for the development of its business; and

- you will have the opportunity to continue to participate in Pure's growth through your ownership of shares of Unocal common stock. Moreover, we expect that Unocal will be better positioned than Pure on a stand-alone basis to develop and exploit Pure's assets.

Q. WHAT ARE SOME OF THE OTHER FACTORS I SHOULD CONSIDER IN DECIDING WHETHER TO TENDER MY SHARES OF PURE COMMON STOCK?

A. In addition to the factors described elsewhere in this prospectus, you should consider the following:

- the exchange ratio reflects a value per share of Pure common stock above the closing price of Pure common stock on May 26, 2000, immediately after its formation, of $14.75 and below the highest trading price at which shares of Pure common stock have traded, $25.30, which was reached on June 5, 2001; and

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- as a stockholder of Unocal, your interest in the performance and prospects of Pure will be only indirect and in proportion to your share ownership in Unocal. You therefore may not realize the same financial benefits of any future appreciation in the value of Pure that you may realize if the offer and merger were not completed and you were to remain a Pure stockholder.

We describe various factors Pure stockholders should consider in deciding whether to tender their shares under "Risk Factors" beginning on page 9 and "Additional Factors for Consideration by Pure Stockholders" beginning on page 25.

Q. IF I DECIDE NOT TO TENDER, HOW WILL THIS AFFECT THE OFFER AND MY SHARES OF PURE COMMON STOCK?

A. We will not acquire any shares of Pure common stock in the offer unless Pure stockholders (other than Unocal and its subsidiaries) have tendered into the offer, and not withdrawn, as of the expiration of the offer, a sufficient number of shares such that we would hold following the offer at least 90% of the outstanding Pure common stock. As of August 2, 2002, according to Pure's SEC filings, there were 50,353,225 shares of Pure common stock outstanding. Accordingly, for us to acquire any shares of Pure common stock, stockholders of Pure (other than Unocal and its subsidiaries) must have tendered into the offer, and not have withdrawn, as of the expiration of the offer, at least

12,608,836 shares of common stock. Your failure to tender your shares of Pure common stock will reduce the likelihood that we will receive tenders of a sufficient number of shares of common stock to be able to complete the offer.

If you do not tender your shares of Pure common stock and we nonetheless successfully complete the offer, as permitted under Delaware law, we would then effect a "short form" merger with Pure without the approval of Pure's board of directors or the remaining holders of Pure's common stock. We intend to effect such a merger as soon as practicable after we complete the offer. Each share of Pure common stock that we do not own or acquire in the offer would be converted in the merger into the right to receive 0.6527 of a share of Unocal common stock, and cash instead of fractional shares, unless you properly perfect your appraisal rights under Delaware law. See "The Offer -- Purpose of the Offer; The Merger" beginning on page 36 and "The Offer -- Appraisal Rights" beginning on page 37.

If we do not successfully complete the offer, your shares of Pure common stock will remain outstanding and we expect that Pure will remain a majority owned subsidiary of Unocal. See "Certain Effects of the Offer -- Conduct of Pure if the Offer is Not Completed" beginning on page 45.

Q. HOW LONG WILL IT TAKE TO COMPLETE THE OFFER AND THE SUBSEQUENT "SHORT FORM" MERGER?

A. We hope to complete the offer promptly after its expiration at midnight, New York City time, on Wednesday, October 2, 2002. However, we may extend the offer if the conditions to the offer have not been satisfied as of the offer's scheduled expiration or if we are required to extend the offer pursuant to the SEC's tender offer rules. We intend to complete the merger as soon as practicable after the successful completion of the offer, unless a court or other legal requirement prevents us from doing so.

Q. WILL PURE'S BOARD OF DIRECTORS MAKE A RECOMMENDATION CONCERNING THE OFFER?

A. We do not know whether the Pure board will make a recommendation. Under SEC rules, Pure will be required to make a recommendation or state that it is neutral or is unable to take a position with respect to the offer, and file with the SEC a solicitation/recommendation statement on Schedule 14D-9 describing its position, if any, and related matters, no later than ten business days from the date of the distribution of this prospectus. Pure is also required to send to you a copy of its Schedule 14D-9. In evaluating this offer, you should be aware that five of eight members of the Pure board are Unocal designees. For additional information on interests that Pure's board members and executive officers may have in the offer and subsequent merger, see "Interests of Certain Persons in the Offer and Subsequent Merger" beginning on page 49.

Q. HAS UNOCAL NEGOTIATED, OR SOUGHT THE APPROVAL OF, THE TERMS OF THIS OFFER OR THE MERGER WITH PURE?

A. No. We have not negotiated the terms of this offer or the subsequent merger with Pure, its board of directors or any special committee of its board. Moreover, we have not requested that Pure, its board of directors or any special committee of its board approve this offer.

Q. HAS THE PURE BOARD FORMED A SPECIAL COMMITTEE OF INDEPENDENT DIRECTORS TO EVALUATE UNOCAL'S OFFER?

A. Yes, we understand that Pure has formed a special committee consisting of directors Herbert C. Williamson, III and Keith A. Covington.

Q. WHAT PERCENTAGE OF UNOCAL COMMON STOCK WILL CURRENT PURE STOCKHOLDERS OWN AFTER THE SUCCESSFUL COMPLETION OF THE OFFER AND SUBSEQUENT MERGER?

A. We anticipate that the completion of the offer and subsequent merger will result in the exchange of the outstanding shares of Pure's common stock that we do not currently own into approximately 4.5% of the shares of Unocal common stock outstanding at the conclusion of the transactions, without regard to stock options, and 6.0% on a fully diluted basis. In general, this assumes that:

- up to 11,516,342 shares of Unocal common stock would be issued in the offer and the subsequent merger (or, if all Pure stock options vest and are exercised, up to a maximum of 15,570,020 shares of Unocal common stock would be issued);

- 244,664,331 shares of Unocal common stock are outstanding before giving effect to the completion of the offer and the subsequent merger; and

- no Pure stockholders exercise appraisal rights.

The holders of Unocal common stock are entitled to one vote for each share they hold. The former stockholders of Pure, who would receive Unocal common stock will, therefore, hold approximately 4.5% of the outstanding voting power of Unocal immediately following the offer and the subsequent merger, without regard to stock options, and 6.0% of the voting power on a fully diluted basis.

Q. HAVE ANY LAWSUITS BEEN FILED IN CONNECTION WITH THE OFFER?

A. Yes. In connection with the offer and subsequent merger, individual stockholders of Pure filed complaints in the Delaware Court of Chancery and the California Superior Court for the County of Los Angeles, Central District purporting to commence class action lawsuits on behalf of the public stockholders of Pure against Unocal, Union Oil Company of California, Pure and each of the individual directors of Pure. Among other remedies, the complaints seek to enjoin the offer and subsequent merger or, alternatively, damages in an unspecified amount and rescission in the event the proposed transaction occurs. Unocal and Union Oil view the complaints as being without merit. See "Certain Legal Matters and Regulatory Approvals -- Stockholder Litigation" beginning on page 44 for a more detailed discussion of these lawsuits.

Q. WHAT ARE THE MOST SIGNIFICANT CONDITIONS TO THE OFFER?

A. The offer is conditioned upon, among other things, satisfaction of the minimum tender condition. In particular, there must be validly tendered, and not properly withdrawn prior to the expiration of the offer, at least 12,608,836 shares (as of the date of this prospectus) such that, giving effect to the offer, we own at least 90% of the total number of outstanding shares of Pure common stock (or 45,317,903 shares, as of the date of this prospectus). In addition, the following conditions must also be met:

- the registration statement, of which this prospectus is a part, having been declared effective by the SEC;

- the shares of Unocal common stock to be issued in the offer and the subsequent merger having been approved for listing on the New York Stock Exchange;

- the absence of any event that would be expected to have an adverse effect on Pure such that, regardless of the circumstances, in our good faith judgment, it would be inadvisable to proceed with the offer; and

- the absence of legal impediments to the offer or the subsequent merger.

These conditions and other conditions to the offer are discussed in this prospectus under "The Offer -- Conditions of the Offer" beginning on page 39.

Q. WILL I BE TAXED ON THE UNOCAL COMMON STOCK THAT I RECEIVE?

A. The offer and the merger are intended to qualify as a reorganization for United States federal income tax purposes under which you would generally not recognize gain or loss upon the receipt of shares of Unocal common stock in exchange for your shares of Pure common stock, other than any gain or loss recognized on the receipt of cash instead of fractional shares. However, there is no condition to the offer relating to the tax-free treatment of the offer and the merger. See "The Offer -- Material U.S. Federal Income Tax Consequences" beginning on page 34. The tax consequences to you will depend on the facts and circumstances of your own situation. Please consult your tax advisor for a full understanding of the tax consequences to you.

Q. DO THE STATEMENTS ON THE COVER PAGE REGARDING THIS PROSPECTUS BEING SUBJECT TO CHANGE AND THE REGISTRATION STATEMENT FILED WITH THE SEC NOT YET BEING EFFECTIVE MEAN THAT THE OFFER HAS NOT COMMENCED?

A. No. As permitted under SEC rules, we have commenced the offer without the registration statement, of which this prospectus is a part, having been declared effective by the SEC. We cannot, however, complete the offer and accept for exchange any shares of Pure common stock tendered in the offer until the registration statement is declared effective by the SEC and the other conditions to our offer have been satisfied or, where permissible, waived.

Q. ARE UNOCAL'S BUSINESS, PROSPECTS AND FINANCIAL CONDITION RELEVANT TO MY DECISION TO TENDER MY SHARES IN THE OFFER?

A. Yes. Shares of Pure common stock accepted in the offer will be exchanged for shares of Unocal common stock and therefore you should consider Unocal's business, prospects and financial condition before you decide whether to tender your shares in the offer. In considering our business, prospects and financial condition, you should review the documents incorporated by reference in this prospectus because they contain detailed business, financial and other information about us. See "Where You Can Find More Information" beginning on page 58.

Q. WHOM CAN I CALL WITH QUESTIONS ABOUT THE OFFER?

A. You can contact our information agent or our Dealer Manager for the offer:

D.F. KING & CO., INC.

Banks and Brokerage Firms, Please Call Collect:
(212) 269-5550
Stockholders Please Call Toll-Free:

(800) 769-6414

or

MERRILL LYNCH & CO.

Banks and Brokerage Firms, Please Call Collect:
(609) 274-3066
Stockholders Please Call Toll-Free:
(866) 276-1462

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SUMMARY

INTRODUCTION

We are proposing to acquire all of the outstanding shares of Pure's common stock that we do not already own. We currently own 32,709,067 shares of Pure common stock, representing approximately 65% of the outstanding shares of Pure's common stock.

We are offering to exchange 0.6527 of a share of Unocal common stock for each outstanding share of Pure's common stock, upon the terms and conditions set forth in this prospectus and the related letter of transmittal. We will not acquire any shares of Pure in the offer unless Pure stockholders (other than Unocal and its subsidiaries) have validly tendered and not properly withdrawn prior to the expiration of the offer a number of shares of Pure's common stock such that, giving effect to the offer, we own at least 90% of the total number of outstanding shares of Pure. As of August 2, 2002, there were 50,353,225 shares of Pure common stock outstanding. Accordingly, for us to acquire any shares of Pure common stock, stockholders of Pure must, based on this information as to Pure's outstanding shares, have tendered into the offer, and not withdrawn, as of the expiration of the offer, at least 12,608,836 shares of Pure common stock. These share numbers would change as a result of changes in Pure's share capitalization, such as through the exercise of outstanding stock options. There are also other conditions to the offer that are described under "The Offer -- Conditions of the Offer" beginning on page 39.

If we successfully complete the offer, we would then own at least 90% of the outstanding shares of Pure's common stock and be permitted under Delaware law to effect a "short form" merger of one of our wholly owned subsidiaries with Pure without the approval of Pure's board or remaining stockholders. We intend to effect a "short form" merger of one of our wholly owned subsidiaries with Pure as soon as practicable after we complete the offer. Each outstanding share of Pure common stock we do not own or acquire in the offer would be converted in the merger into the right to receive 0.6527 of a share of Unocal common stock and cash instead of fractional shares, the same consideration per share of Pure common stock you would have received if you had tendered your shares into the offer, unless you properly perfect your appraisal rights under Delaware law. See "The Offer -- Purpose of the Offer; The Merger" beginning on page 36 and "The Offer -- Appraisal Rights" beginning on page 37. After completion of the merger, Pure will be a wholly owned subsidiary of Unocal.

INFORMATION ABOUT UNOCAL AND PURE

UNOCAL CORPORATION
2141 Rosecrans Avenue, Suite 4000
El Segundo, California 90245
(310) 726-7600

Unocal is one of the world's largest independent natural gas and crude oil exploration and production companies. The company's oil and gas activities are principally in North America, Asia, Latin America, and the North Sea.

PURE RESOURCES, INC.
500 West Illinois, Suite 200
Midland, Texas 79701
(915) 498-8600

Pure is an independent exploration and production company that develops and produces oil and natural gas in the Permian Basin, the San Juan Basin, the Gulf Coast and the Gulf of Mexico. The company also owns an undivided interest under approximately 6 million gross fee mineral acres throughout the Southern Gulf Coast region of the U.S. Pure was formed in May 2000 through the combination of Titan Exploration, Inc. and the Permian Basin business unit of Unocal Corporation.

THE OFFER

EXCHANGE OF SHARES OF PURE COMMON STOCK

Upon the terms and subject to the conditions of the offer, promptly after the expiration of the offer we will accept shares of Pure common stock which are validly tendered and not properly withdrawn in exchange for shares of Unocal common stock. We are offering to exchange 0.6527 of a share of Unocal common stock for each outstanding share of Pure's common stock.

TIMING OF THE OFFER

We are commencing the offer on September 5, 2002, the date of the distribution this prospectus. Our offer is scheduled to expire at midnight, New York City time, on Wednesday, October 2, 2002, unless we extend the period of the offer. All references to the expiration of the offer mean the time of expiration, as extended. For more information, see the discussion under "-- Extension, Termination and Amendment" below.

EXTENSION, TERMINATION AND AMENDMENT

We expressly reserve the right, in our sole discretion, to extend, on one or more occasions, the period of time during which the offer remains open, and we can do so by giving oral or written notice of extension to Mellon Investor Services, LLC, the depositary and exchange agent for the offer. If we decide to extend the offer, we will make an announcement to that effect no later than 9:00 a.m., New York City time, on the next business day after the previously scheduled expiration. We are not giving any assurance that we will exercise our right to extend the offer. During any extension, all shares of Pure common stock previously tendered and not withdrawn will remain deposited with the exchange agent and depositary, subject to your right to withdraw your shares of Pure common stock as described under "The Offer -- Withdrawal Rights" beginning on page 33. We do not intend to have a subsequent offering period.

We reserve the right, in our sole discretion, to delay, on one or more occasions, our acceptance for exchange of shares of Pure common stock pursuant to our offer. We also reserve the right to terminate our offer and not accept for exchange any shares of Pure common stock, upon the failure of any of the conditions of the offer to be satisfied or, where permissible, waived, or otherwise to amend the offer in any respect (except as described below), by giving oral or written notice of delay, termination or amendment to the exchange agent and depositary and by making a public announcement.

We will follow any extension, delay, termination or amendment, as promptly as practicable, with a public announcement. Subject to applicable law, including Rules 14d-4(c) and 14d-6(d) under the Securities Exchange Act of 1934, as amended, or the Exchange Act, which require that any material change in the information published, sent or given to the stockholders in connection with the offer be promptly sent to stockholders in a manner reasonably designed to inform stockholders of the change, and without limiting the manner in which we may choose to make any public announcement, we assume no obligation to publish, advertise or otherwise communicate any public announcement other than by making a release to the Dow Jones News Service.

DELIVERY OF UNOCAL COMMON STOCK

We will accept for exchange shares of Pure common stock validly tendered and not properly withdrawn promptly after the expiration of the offer and will exchange Unocal common stock and cash instead of fractional shares for the tendered shares of Pure's common stock as soon as practicable afterwards. In all cases, exchange of shares of Pure common stock tendered and accepted for exchange pursuant to the offer will be made only if the exchange agent and depositary timely receives (1) certificates for those shares of Pure common stock, or a timely confirmation of a book-entry transfer of those shares of Pure common stock in the

exchange agent and depositary's account at The Depository Trust Company, or DTC, and a properly completed and duly executed letter of transmittal, or a manually signed copy, and any other required documents; or (2) a timely confirmation of a book-entry transfer of those shares of Pure common stock in the exchange agent and depositary's account at DTC, together with an "agent's message" as described below under "-- Procedure for Tendering Shares."

WITHDRAWAL RIGHTS

You may withdraw any shares of Pure common stock you previously tendered into the offer at any time before the expiration of the offer. See "The Offer -- Withdrawal Rights" beginning on page 33.

CASH INSTEAD OF FRACTIONAL SHARES OF UNOCAL COMMON STOCK

We will not issue any fraction of a share of Unocal common stock pursuant to the offer or the merger. Instead, each tendering stockholder who would otherwise be entitled to a fraction of a share of Unocal common stock, after combining all fractional shares to which the stockholder would otherwise be entitled, will receive cash in an amount equal to the product obtained by multiplying (1) the fraction of a share of Unocal common stock to which the holder would otherwise be entitled by (2) the closing price of Unocal common stock as reported on the New York Stock Exchange on the last trading day before the time that the offer expires.

PROCEDURE FOR TENDERING SHARES

For you to validly tender shares of Pure common stock into our offer, you must do one of the following:

- Deliver certificates for your shares, a properly completed and duly executed letter of transmittal or a copy thereof that has been manually signed, along with any other required documents, to the exchange agent and depositary at one of its addresses set forth on the back cover of this prospectus prior to the expiration of the offer;

- Arrange for a book-entry transfer of your shares to be made to the exchange agent and depositary's account at DTC and receipt by the exchange agent and depositary of a confirmation of this transfer prior to the expiration of the offer, and the delivery of a properly completed and duly executed letter of transmittal or a copy thereof that has been manually signed, and any other required documents to the exchange agent and depositary at one of its addresses set forth on the back cover of this prospectus prior to the expiration of the offer; or

- Arrange for a book-entry transfer of your shares to the exchange agent and depositary's account at DTC and receipt by the exchange agent and depositary of confirmation of this transfer, including an "agent's message," prior to the expiration of the offer.

These deliveries and arrangements must be made before the expiration of the offer. TENDERS BY NOTICE OF GUARANTEED DELIVERY WILL NOT BE ACCEPTED.

MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES

The offer and the merger are intended to qualify as a reorganization for United States federal income tax purposes under which you would generally not recognize gain or loss upon the receipt of shares of Unocal common stock in exchange for your shares of Pure common stock, other than any gain or loss recognized on the receipt of cash instead of fractional shares. However, there is no condition to the offer relating to the tax-free treatment of the offer and the merger. See "The Offer -- Material U.S. Federal Income Tax Consequences" beginning on page 34. The tax consequences to you will depend on the facts and circumstances of your own situation. Please consult your tax adviser for a full understanding of the tax consequences to you.

REGULATORY APPROVALS

We are not aware of any license or regulatory permit material to the business of Pure and its subsidiaries, on a consolidated basis, that may be materially adversely affected by our acquisition of Pure's common stock, or any filing or approval that would be required for our acquisition of Pure's common stock. We intend to make all required filings under the Securities Act of 1933, as amended (or the Securities Act) and the Exchange Act. We are unaware of any requirement for the filing of information with, or the obtaining of the approval of, governmental authorities in any non-U.S. jurisdiction that is applicable to the offer or the merger.

APPRAISAL RIGHTS

Under Delaware law, you will not have any appraisal rights in connection with the offer. However, appraisal rights are available in connection with the subsequent "short form" merger. For a detailed discussion of these appraisal rights, see "Certain Effects of the Offer -- Appraisal Rights" beginning on page 37.

ACCOUNTING TREATMENT

Our acquisition of the common stock will be accounted for under the purchase method of accounting in accordance with generally accepted accounting principles in the United States. See "Certain Effects of the Offer -- Accounting Treatment" on page 48.

COMPARISON OF RIGHTS OF STOCKHOLDERS OF PURE AND STOCKHOLDERS OF UNOCAL

If we successfully complete the offer, holders of Pure's common stock will become Unocal stockholders, and their rights as stockholders will be governed by Unocal's restated certificate of incorporation and by-laws. There are differences between the certificates of incorporation and by-laws of Pure and Unocal. Since Pure and Unocal are both Delaware corporations, the rights of Pure stockholders will continue to be governed by Delaware law after the completion of the offer and the subsequent merger. For a summary of material differences between the rights of holders of Pure common stock and holders of Unocal common stock, see "Comparison of Rights of Holders of Pure's Common Stock and Holders of Unocal's Common Stock" beginning on page 52.

SELECTED HISTORICAL FINANCIAL DATA OF UNOCAL AND PURE

We are providing the following selected financial information to assist you in analyzing the financial aspects of the offer and the subsequent merger. We derived the financial information presented for Unocal and for Pure as of, and for the six-month periods ended, June 30, 2001 and 2002 from Unocal's and Pure's respective Quarterly Reports on Form 10-Q for the quarterly period ended June 30, 2001 and 2002, respectively. We derived the financial information presented for Unocal and for Pure as of, and for each of the five years for the period ended December 31, 2001 from Unocal's and Pure's respective Annual Reports on Form 10-K for each of those years. Pure's Selected Historical Consolidated Financial Data for the years ended December 31, 1997, 1998 and 1999 and the five-month period ending May 31, 2000 (which is included in the period ending December 31, 2000) relate solely to Unocal's Permian Basin Business Unit.

You should read the financial information with respect to Unocal and Pure in conjunction with the historical consolidated financial statements and related notes contained in the annual, quarterly and other reports filed by Unocal and Pure with the SEC, which we have incorporated by reference into this prospectus. See "Where You Can Find More Information" beginning on page 58.

UNOCAL SELECTED HISTORICAL CONSOLIDATED FINANCIAL DATA

	AS OF AND FOR THE SIX MONTHS ENDED JUNE 30,		AS OF AND FOR THE YEAR ENDED DECEMBER 3				
	2002	2001	2001	2000	1999	1998	1
	(DOLLARS IN MILLIONS, EXCEPT PER SHARE AMOUNTS)						
CONSOLIDATED INCOME STATEMENT DATA:							
Sales and operating revenues.......	$ 2,373	$ 3,890	$ 6,664	$ 8,941	$5,842	$4,627	$5
Earnings from continuing operations before minority interests, interest expense and income taxes...........................	368	1,024	1,316	1,472	484	480	
Net earnings......................	136	542	615	760	137	130	
Earnings available for common shares..........................	136	542	615	760	137	130	
Basic earnings per common share....	$ 0.55	$ 2.23	$ 2.52	$ 3.13	$ 0.57	$ 0.54	$
Diluted earnings per common share...........................	$ 0.55	$ 2.17	$ 2.50	$ 3.08	$ 0.56	$ 0.54	$
Cash dividends per common share....	$ 0.40	$ 0.40	$ 0.80	$ 0.80	$ 0.80	$ 0.80	$

CONSOLIDATED BALANCE SHEET DATA:							
Total assets.......................	10,793	10,718	10,425	10,010	8,967	7,952	7
Short-term debt (including current maturities).....................	8	189	9	114	1	--	
Long-term debt.....................	3,111	2,770	2,897	2,392	2,853	2,558	2
Company obligated preferred securities.......................	522	522	522	522	522	522	
Common shareholders' equity........	3,210	3,155	3,124	2,719	2,184	2,202	2

PURE SELECTED HISTORICAL CONSOLIDATED FINANCIAL DATA

	AS OF AND FOR THE SIX MONTHS ENDED JUNE 30,		AS OF AND FOR THE YEAR ENDED DECEMBER 3				
	2002	2001	2001	2000	1999	1998	1
	(DOLLARS IN MILLIONS, EXCEPT PER SHARE AMOUNTS)						
CONSOLIDATED INCOME STATEMENT DATA:							
Sales and operating revenues.......	$ 200	$ 257	$ 484	$ 283	$ 114	$ 107	$
Earnings from continuing operations before minority interests, interest expense and income taxes...........................	18	100	144	120	26	7	
Net income.........................	1	59	81	83	18	5	

	AS OF AND FOR THE SIX MONTHS ENDED JUNE 30,		AS OF AND FOR THE YEAR ENDED DECEMBER 3				
	2002	2001	2001	2000	1999	1998	1
	(DOLLARS IN MILLIONS, EXCEPT PER SHARE AMOUNTS)						
Earnings available for common shares..........................	1	59	81	83	18	5	
Basic earnings per common share....	$ 0.03	$ 1.18	$ 1.62	$ 1.93	$ 0.54	$ 0.15	$
Diluted earnings per common share...........................	$ 0.03	$ 1.15	$ 1.59	$ 1.90	$ 0.54	$ 0.15	$
Cash dividends per common share....	$ --	$ --	$ --	$ --	$ --		
CONSOLIDATED BALANCE SHEET DATA:							
Total assets.......................	1,413	1,409	1,435	719	295	311	
Short-term debt (including current maturities).....................	--	--	--	--	--	--	
Long-term debt.....................	571	535	587	68	--	--	
Company obligated preferred securities.......................	--	--	--	--	--	--	
Common shareholders' equity........	465	463	488	378	203	224	

UNAUDITED COMPARATIVE PER SHARE DATA

In the following table we present historical per share data for Unocal and Pure, combined pro forma per share data for Unocal and equivalent pro forma per share data for Pure, as of and for the six months ended June 30, 2002 and as of and for the year ended December 31, 2001. We present the pro forma per share data for comparative purposes only. The data does not purport to be indicative of (1) the results of operations or financial position which would have been achieved if the offer and the subsequent merger had been completed at the beginning of the period or as of the date indicated, or (2) the results of operations or financial position which may be achieved in the future. The pro forma per share data does not reflect any payment that may be required to be made in connection with the exercise of appraisal rights by Pure stockholders under Delaware law in connection with the subsequent merger.

	UNOCAL HISTORICAL PER SHARE DATA	COMBINED UNOCAL PRO FORMA PER SHARE DATA(1)(2)(3)	PURE HISTORICAL PER SHARE DATA	PU
	FOR THE SIX MONTHS ENDED JUNE 30, 2002			
Earnings from continuing operations per share of common stock:				
Basic	$ 0.55	$ 0.55	$0.01	
Diluted	$ 0.55	$ 0.55	$0.01	
Cash dividends per share of common stock	$ 0.40	$ 0.40	--	
Book value per share of common stock(4)	$13.12	$14.10	$9.23	
	FOR THE YEAR ENDED DECEMBER 31, 2001			
Earnings from continuing operations per share of common stock:				
Basic	$ 2.45	$ 2.40	$1.60	
Diluted	$ 2.43	$ 2.37	$1.57	
Cash dividends per share of common stock	$ 0.80	$ 0.80	--	
Book value per share of common stock(5)	$12.80	$13.80	$9.73	

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(1) The unaudited pro forma combined earnings from continuing operations per share and book value per share of common stock are based on Pure stockholders receiving 0.6527 of a share of Unocal common stock for each share of Pure common stock. The Pure equivalent unaudited pro forma per share data are calculated by multiplying the unaudited pro forma combined per share data by 0.6527.

(2) Reflects the historical operations of Unocal and Pure adjusted to reflect the impact of purchase accounting by Unocal and the issuance of Unocal common stock.

(3) Based on the price of Unocal common stock as of August 20, 2002 and offer consideration of 0.6527 of a share of Unocal common stock for each outstanding share of Pure common stock, we have estimated a purchase price of approximately $392 million. For purposes of the calculation of pro forma combined earnings from continuing operations per share, we have performed a preliminary allocation of this purchase price and estimated the effect of the elimination of unnecessary functions and activities and additional depletion, depreciation and amortization of properties. Of the $392 million total consideration, approximately $155 million is estimated to be allocated to minority interests; approximately $99 million is estimated to be allocated to the minority interests' share of oil and gas properties; and approximately $83 million is estimated to be recorded as goodwill, which will not be subject to amortization. A deferred tax liability of $37 million is being recorded and is related to the purchase price allocated to the minority interests' share of oil and gas properties. We have eliminated the liability estimated to be approximately $92 million related to the Pure officers' right to require Pure to purchase its common shares currently held or subsequently obtained by the exercise of any options held by an officer at a calculated "net asset value" per share. The net asset value per share at June 30, 2002 was less than the offer consideration for each outstanding share of Pure common stock. The purchase price and associated allocation is estimated based on the facts and circumstances as of the date of this prospectus. Upon completion of the offer and merger, we will perform a more detailed purchase price allocation.

We have also included within pro forma combined earnings from continuing operations per share a charge to adjust the amortization of estimated compensation of approximately $15 million after-tax for the year ended December 31, 2001, as a result of the accelerated vesting of officer stock options. These options are subject to variable accounting treatment, and as a result are remeasured for changes in Pure's stock price. For the six months ended June 30, 2002, we have estimated a decrease to compensation expense of approximately $5 million after-tax.

Pro forma combined earnings from continuing operations per share excludes an estimated nonrecurring compensation charge of approximately $8 million after-tax related to employee stock options which may be assumed by us.

(4) Historical book value per share of common stock at June 30, 2002 is computed by dividing stockholders' equity by the number of shares of common stock outstanding as of June 30, 2002 of 244.7 million and of 50.3 million for Unocal and Pure, respectively. Pro forma book value per share is computed by dividing pro forma stockholders' equity by the pro forma number of shares of common stock outstanding as of June 30, 2002.

(5) Historical book value per share of common stock at December 31, 2001 is computed by dividing stockholders' equity by the number of shares of common stock outstanding as of December 31, 2001 of 244.0 million and of 50.2 million for Unocal and Pure, respectively. Pro forma book value per share is computed by dividing pro forma stockholders' equity by the pro forma number of shares of common stock outstanding as of December 31, 2001.

COMPARATIVE PER SHARE MARKET DATA

In the following table we present:

- the prices per share of Unocal's common stock and Pure's common stock as reported in the consolidated transaction reporting system, as of the close of trading on August 20, 2002, the last trading date prior to the public announcement of Unocal's offer,

- the equivalent price per share of Pure's common stock, based on the exchange ratio.

	UNOCAL HISTORICAL	PURE HISTORICAL	PURE EQUIVALENT(1)
As of closing on August 20, 2002			
Price per share of common stock..................	$34.09	$17.52	$22.25

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(1) We calculated the Pure equivalent data by multiplying the applicable Unocal closing price by the exchange ratio in the offer and the subsequent merger of 0.6527 of a share of Unocal common stock for each share of Pure's common stock.

On September 3, 2002, the last trading date prior to the printing of this prospectus for which this information was practicably available, the closing prices per share of Unocal common stock and Pure common stock, as reported in the consolidated transaction reporting system, were $32.22 and $22.62, respectively.

The market prices of shares of Unocal common stock and Pure common stock are subject to fluctuation. The actual value of the shares of Unocal common stock you receive in the offer will likely differ from the values illustrated. You are urged to obtain current market quotations. See "Comparative Per Share Market Price and Dividend Information" beginning on page 28.

UNOCAL DIVIDEND POLICY

The holders of shares of Unocal common stock receive dividends if and when declared by our board of directors out of legally available funds. We currently pay dividends at an annual rate of $0.80 per share. We expect to continue to pay quarterly dividends at this annual rate on a basis consistent with our past practice following completion of the offer and the subsequent merger. However, our board's declaration and payment of dividends will depend upon business conditions, operating results and our board of directors' consideration of other relevant factors. On July 26, 2002, Unocal declared a regular quarterly dividend of $0.20 per share payable on November 8, 2002 to holders of record of Unocal common stock on October 10, 2002. No assurance can be given that we will continue to pay dividends on our common stock at the current annual rate in the future. See "Comparative Per Share Market Price and Dividend Information -- Unocal -- Unocal Dividend Policy" on page 28.

PURE SHARES HELD BY UNOCAL DIRECTORS, EXECUTIVE OFFICERS AND AFFILIATES

Union Oil owns approximately 65% of the outstanding shares of Pure common stock. The directors and executive officers of Unocal and Union Oil, in the aggregate, own a de minimis number of the outstanding shares of Pure common stock. For more details see "Interests of Unocal and the Directors, Executive Officers and Affiliates of Unocal, in Shares of Pure" on Annex B of this

prospectus.

RISK FACTORS

In deciding whether to tender your shares pursuant to the offer, you should read carefully this prospectus and the documents which we incorporate by reference into this prospectus. You should also carefully consider the following factors:

RISKS RELATED TO THE OFFER AND THE SUBSEQUENT MERGER

THE NUMBER OF SHARES OF UNOCAL COMMON STOCK THAT YOU WILL RECEIVE IN THE OFFER AND THE SUBSEQUENT MERGER WILL BE BASED UPON A FIXED EXCHANGE RATIO. THE VALUE OF THE SHARES OF UNOCAL COMMON STOCK AT THE TIME YOU RECEIVE THEM COULD BE LESS THAN AT THE TIME YOU TENDER YOUR SHARES OF PURE COMMON STOCK.

In the offer and the subsequent merger, each share of Pure common stock will be exchanged for 0.6527 of a share of Unocal common stock. This is a fixed exchange ratio. We will not adjust the exchange ratio as a result of any change in the market price of Unocal common stock between the date of this prospectus and the date you receive shares of Unocal common stock in exchange for shares of Pure common stock. The market price of the Unocal common stock will likely be different on the date you receive shares of Unocal common stock than it is today because of changes in the business, operations or prospects of Unocal, market reactions to our offer, general market and economic conditions and other factors. You are urged to obtain current market quotations for Unocal common stock and Pure common stock. See "Comparative Per Share Market Price and Dividend Information" beginning on page 28.

THE TRADING PRICE OF UNOCAL'S COMMON STOCK MAY BE AFFECTED BY FACTORS IN ADDITION TO THOSE FACTORS AFFECTING THE PRICE OF PURE'S COMMON STOCK. THE PRICE OF UNOCAL'S COMMON STOCK COULD DECLINE FOLLOWING THE OFFER.

If we successfully complete the offer and any subsequent merger, holders of Pure's common stock will become holders of Unocal's common stock. Although we currently own approximately 65% of Pure's outstanding shares of common stock, we also own and operate other businesses. Accordingly, our results of operations and business, as well as the trading price of our common stock, may be affected by factors in addition to those affecting Pure's results of operations and business and the price of Pure's common stock. The price of Unocal's common stock may decrease after we accept shares of Pure common stock for exchange in the offer and complete the subsequent merger.

WE HAVE NOT NEGOTIATED WITH OR SOUGHT APPROVAL OF THE PRICE OR TERMS OF THE OFFER OR THE SUBSEQUENT MERGER FROM PURE'S BOARD.

In evaluating this offer, you should be aware that we have not negotiated the price or terms of this offer or the subsequent merger with Pure, its board of directors or any special committee of its board. We have also not requested that Pure, its board of directors or any special committee of its board approve this offer or the subsequent merger. Pure will be required, however, under the rules of the SEC, to either make a recommendation, or state that it is neutral or is unable to take a position with respect to the offer, and file with the SEC a solicitation/recommendation statement on Schedule 14D-9 describing its position, if any, and certain related information, no later than ten business days from the date of the distribution of this prospectus.

THE BOARD OF DIRECTORS AND EXECUTIVE OFFICERS OF PURE HAVE POTENTIAL CONFLICTS OF INTERESTS WITH RESPECT TO THE OFFER.

You should be aware that there exist conflicts of interest among members of the Pure board. Not only does Unocal own approximately 65% of the outstanding Pure common stock, but five of the eight members of the Pure board are nominees of Unocal. Unocal's nominees include two of its current officers, one of whom is also a director of Unocal, and two of its former officers. For additional information on the interests that Pure's board members and executive officers may have in the offer and subsequent merger, see "Interests of Certain Persons in the Offer and Subsequent Merger" beginning on page 49.

THE OFFER AND MERGER MAY NOT QUALIFY AS A TAX-FREE REORGANIZATION FOR UNITED STATES FEDERAL INCOME TAX PURPOSES.

The offer and the merger are intended to qualify as a "reorganization" for United States federal income tax purposes under which you would generally not recognize gain or loss upon the receipt of shares of Unocal common stock in exchange for your shares of Pure common stock, other than any gain or loss recognized on the receipt of cash instead of fractional shares. If the offer and merger are consummated but fail to be treated as a "reorganization" for United States federal income tax purposes, however, the offer and merger will be taxable to you. Reorganization treatment depends on numerous factors, including factors beyond our control. For example, the offer and merger could fail to be treated as a "reorganization" if certain rights held by executives of Pure requiring Pure to purchase the executives' shares in Pure for cash are exercised and any funds are provided directly or indirectly by Unocal or Union Oil for that purpose. If the merger does not qualify as a reorganization, you would generally be taxable on any gain you realize upon the receipt of shares of Unocal common stock in exchange for your shares of Pure common stock in the offer or the merger. The offer does not include a condition relating to the tax-free treatment of the offer and the merger.

WE MAY NOT BE ABLE TO EFFECT THE "SHORT FORM" MERGER IF A SUFFICIENT NUMBER OF SHARES OF PURE'S COMMON STOCK ARE NOT TENDERED IN THE OFFER.

It is our intention to promptly complete a "short form" merger following the completion of the offer. However, if we successfully complete the offer but for any reason are not able to complete promptly the "short form" merger, shares of Pure's common stock not tendered into the offer would remain outstanding until we are able to effect such a merger, if ever. In these circumstances, the liquidity of and market for those remaining publicly held shares of Pure common stock could be adversely affected. Pure's common stock is currently listed on the New York Stock Exchange. Depending upon the number of shares of Pure common stock purchased in the offer, Pure's common stock may no longer meet the requirements for continued listing and may be delisted from the New York Stock Exchange. It is possible that Pure's common stock would continue to trade in the over-the-counter market and that price quotations would be reported by other sources. The extent of the public market for Pure's common stock and the availability of these quotations would depend, however, upon the number of holders of Pure's common stock remaining at that time, the interests in maintaining a market in Pure's common stock on the part of securities firms, the possible termination of registration of Pure's common stock under the Exchange Act, as described below, and other factors.

In addition, Pure's registration under the Exchange Act could be terminated upon application of Pure to the SEC if the shares are no longer listed on a securities exchange and there are fewer than 300 holders of record of the Pure common stock. The termination of the registration of Pure's common stock under the Exchange Act would substantially reduce the information required to be furnished by Pure to its stockholders and to the SEC. It would also make certain

of the provisions of the Exchange Act, such as the short-swing profit recovery provisions of Section 16(b), the requirement of furnishing a proxy statement in connection with stockholders' meetings, the related requirement of an annual report to stockholders, and the requirements of SEC Rule 13e-3 with respect to going private transactions, no longer applicable.

Shares of Pure's common stock are currently "margin securities" under the regulations of the Board of Governors of the Federal Reserve System. This has the effect of allowing brokers to extend credit on shares of Pure's common stock as collateral. Depending on factors similar to those described above regarding listing and market quotations, it is possible that Pure's common stock would no longer constitute "margin securities" for purposes of the Federal Reserve Board's margin regulations. If registration of Pure's common stock under the Exchange Act is terminated, Pure's common stock would no longer be "margin securities."

RISKS RELATED TO OUR BUSINESS

Our business activities are subject to hazards and risks. The following is a summary of the material risks relating to our business activities. Before tendering your shares of Pure common stock in the offer, you should carefully consider the material risks described below, as well as the other information contained in this prospectus and the documents incorporated by reference in this prospectus under the caption "Where You

Can Find More Information". If any of the events described below occur, our business, financial condition and/or results of operations could be materially harmed, and you could lose part or all of your investment.

OUR PROFITABILITY IS HIGHLY DEPENDENT ON THE PRICES OF CRUDE OIL, NATURAL GAS AND NATURAL GAS LIQUIDS, WHICH HAVE HISTORICALLY BEEN VERY VOLATILE.

Our revenues, profitability, cash flow and future rate of growth are highly dependent on the prices of crude oil, natural gas and natural gas liquids, which are affected by numerous factors beyond our control. Oil and gas liquids and gas prices historically have been very volatile. For example, our lower 48 U.S. gas prices declined significantly in 2001 from the very high levels reached in the second half of 2000 and early 2001. A significant downward trend in commodity prices, comparable to the commodity prices experienced in 1998, would have a material adverse effect on our revenues, profitability and cash flow and could result in a reduction in the carrying value of our oil and gas properties and the amounts of our proved oil and gas reserves.

OUR HEDGING AND SPECULATING ACTIVITIES MAY PREVENT US FROM BENEFITING FROM PRICE INCREASES AND MAY EXPOSE US TO OTHER RISKS.

To the extent that we engage in hedging activities to endeavor to protect ourselves from price volatility, we may be prevented from realizing the benefits of price increases above the levels of the hedges. In addition, we engage in speculative trading in hydrocarbon commodities and derivative instruments in connection with our risk management activities, which subjects us to additional risk.

OUR DRILLING ACTIVITIES MAY NOT BE PRODUCTIVE.

Drilling for oil and gas involves numerous risks, including the risk that we will not encounter commercially productive oil or gas reservoirs. The costs of drilling, completing and operating wells are often uncertain and drilling operations may be curtailed, delayed or canceled as a result of a variety of

factors, including:

- Unexpected drilling conditions;
- Pressure or irregularities in formations;
- Equipment failures or accidents;
- Fires, explosions, blow-outs and surface cratering;
- Marine risks such as capsizing, collisions and hurricanes;
- Adverse weather conditions; and
- Shortages or delays in the delivery of equipment.

Our future drilling activities may not be successful and, if unsuccessful, this failure could have an adverse effect on our future results of operations and financial condition. While all drilling, whether developmental or exploratory, involves these risks, exploratory drilling involves greater risks of dry holes or failure to find commercial quantities of hydrocarbons. Because of the percentage of our capital budget devoted to higher risk exploratory projects, it is likely that we will continue to experience significant exploration and dry hole expenses.

As part of our strategy, we explore for oil and gas offshore, sometimes in deep water and/or at deep drilling depths, where operations are more difficult and costly than on land or than at shallower depths and in shallower waters. Deepwater operations may require a significant amount of time between a discovery and the time that we can produce and market the oil or gas, increasing both the financial and operational risk involved with these activities.

OPERATING RISKS

Our business is subject to all of the operating risks normally associated with the exploration for and production of oil and gas, including blowouts, cratering and fire, any of which could result in damage to, or destruction of, oil and gas wells or formations or production facilities and other property and injury to persons. As protection against financial loss resulting from these operating hazards, we maintain insurance coverage, including certain physical damage, comprehensive general liability and worker's compensation insurance. However, we are not fully insured against all risks in our business. The occurrence of a significant event against which we are not fully insured could have a material adverse effect on our results of operations and possibly on our financial position.

DEVELOPMENT RISKS

We are involved in several large development projects, principally offshore. Key factors that may affect the timing and outcome of such projects include: project approvals by joint venture partners; timely issuance of permits and licenses by governmental agencies; manufacturing and delivery schedules of critical equipment, such as offshore platforms, and commercial arrangements for pipelines and related equipment to transport and market hydrocarbons. Delays and differences between estimated and actual timing of critical events may affect the completion of and commencement of production from projects.

OUR OIL AND GAS RESERVE DATA AND FUTURE NET REVENUE ESTIMATES ARE UNCERTAIN.

Estimates of reserves by necessity are projections based on engineering data, the projection of future rates of production and the timing of future expenditures. We base the estimates of our proved oil and gas reserves and projected future net revenues on reserve reports we prepare. The process of estimating oil and gas reserves requires substantial judgment on the part of the petroleum engineers, resulting in imprecise determinations, particularly with respect to new discoveries. Different reserve engineers may make different estimates of reserve quantities and revenues attributable to those reserves based on the same data. Future performance that deviates significantly from reserve reports could have a material adverse effect on our business and prospects, as well as on the amounts and carrying values of such reserves.

Fluctuations in the prices of oil and natural gas have the effect of significantly altering reserve estimates, because the economic projections inherent in the estimates may reduce or increase the quantities of recoverable reserves. We may not realize the prices our reserve estimates reflect or produce the estimated volumes during the periods those estimates reflect. Actual future production, oil and natural gas prices, revenues, taxes, development expenditures, operating expenses and quantities of recoverable oil and natural gas reserves most likely will vary from our estimates.

Any downward revision in our estimated quantities of reserves or of the carrying values of our reserves could have adverse consequences on our financial results, such as increased depreciation, depletion and amortization charges and/or impairment charges, which would reduce earnings and stockholders' equity.

IF WE FAIL TO FIND OR ACQUIRE ADDITIONAL RESERVES, OUR RESERVES AND PRODUCTION WILL DECLINE MATERIALLY FROM THEIR CURRENT LEVELS.

The rate of production from oil and gas properties generally declines as reserves are depleted. Except to the extent we conduct successful exploration and development activities or, through engineering studies, identify additional productive zones or secondary recovery reserves, and/or acquire additional properties containing proved reserves, our proved reserves will decline materially as oil and gas is produced. Future oil and gas production is, therefore, highly dependent on our level of success in finding or acquiring additional reserves.

OUR GROWTH DEPENDS SIGNIFICANTLY ON OUR ABILITY TO ACQUIRE OIL AND GAS PROPERTIES ON A PROFITABLE BASIS.

Acquisitions of producing oil and gas properties have been a key element of maintaining and growing our reserves and production in recent years, particularly in North America. The success of any acquisition will

depend on a number of factors, including the ability to estimate accurately the recoverable volumes of reserves, rates of future production and future net revenues attainable from reserves and to assess future abandonment and possible future environmental liabilities.

There are numerous uncertainties inherent in estimating quantities of proved oil and gas reserves and actual future production rates and associated costs and potential liabilities with respect to acquired properties. Actual results may vary substantially from those assumed in the estimates.

DOMESTIC GOVERNMENTAL RISKS

Our domestic operations have been, and at times in the future may be, affected by political developments and by federal, state and local laws and

regulations such as restrictions on production, changes in taxes, royalties and other amounts payable to governments or governmental agencies, price controls and environmental protection regulations.

GLOBAL POLITICAL AND ECONOMIC DEVELOPMENTS MAY IMPACT OPERATIONS.

Political and economic factors in international markets may have a material adverse effect on our operations. On an equivalent-barrel basis, approximately one-half of our oil and gas production in 2001 was outside the United States, and approximately two-thirds of our proved oil and gas reserves at December 31, 2001, were located outside of the United States. All of our geothermal operations and reserves are located outside the United States.

There are many risks associated with operations in international markets, including changes in foreign governmental policies relating to crude oil, natural gas liquids, natural gas, and geothermal steam pricing and taxation, other political, economic or diplomatic developments, changing political conditions and international monetary fluctuations. These risks include:

- Political and economic instability or war;

- The possibility that a foreign government may seize our property with or without compensation;

- Confiscatory taxation;

- A foreign government attempting to renegotiate or revoke existing contractual arrangements;

- Fluctuating currency values and currency controls; and

- Constrained natural gas markets dependent on demand in a single or limited geographical area.

Actions of the United States government through tax and other legislation, executive order and commercial restrictions can adversely affect our operating profitability overseas, as well as in the U.S. The United States government can prevent or restrict us from doing business in foreign countries. These restrictions and those of foreign governments have in the past limited our ability to operate in or gain access to opportunities in various countries. Various agencies of the United States and other governments have from time to time imposed restrictions on our ability to operate in or gain attractive opportunities in various countries. Actions by both the United States and host governments have affected operations significantly in the past and will continue to do so in the future.

THE OIL AND GAS EXPLORATION AND PRODUCTION INDUSTRY IS VERY COMPETITIVE, AND MANY OF OUR EXPLORATION AND PRODUCTION COMPETITORS HAVE GREATER FINANCIAL AND/OR OTHER RESOURCES THAN WE DO.

Strong competition exists in all sectors of the oil and gas exploration and production industry and, in particular, in the exploration and development of new reserves. We compete with major integrated and other independent oil and gas companies for the acquisition of oil and gas leases and other properties, for the equipment and labor required to develop and operate those properties and the marketing of oil and natural gas production. Many of our competitors have financial and other resources substantially greater than those available to us. As a consequence, we may be at a competitive disadvantage in bidding for drilling rights. In addition, many of our larger competitors may have a competitive advantage when responding to factors that

affect the demand for oil and natural gas production, such as changes in worldwide prices and levels of production, the cost and availability of alternative fuels and the application of government regulations. We also compete in attracting and retaining personnel, including geologists, geophysicists, engineers and other specialists.

ENVIRONMENTAL COMPLIANCE AND REMEDIATION HAVE RESULTED IN AND COULD CONTINUE TO RESULT IN INCREASED OPERATING COSTS AND CAPITAL REQUIREMENTS.

Our operations are subject to numerous laws and regulations relating to the protection of the environment. We have incurred, and will continue to incur, substantial operating, maintenance, remediation and capital expenditures as a result of these laws and regulations. Our compliance with amended, new or more stringent requirements, stricter interpretations of existing requirements or the future discovery of contamination may require us to make material expenditures or subject us to liabilities beyond what we currently anticipate. In addition, any failure by us to comply with existing or future laws could result in civil or criminal fines and other enforcement action against us.

Our past and present operations and those of companies we have acquired expose us to civil claims by third parties for alleged liability resulting from contamination of the environment or personal injuries caused by releases of hazardous substances.

For example:

- We are investigating or remediating contamination at a large number of formerly and currently owned and/or operated sites; and

- We have been identified as a potentially responsible party at several Superfund and other multi-party sites where we or our predecessors are alleged to have disposed of wastes in the past.

Environmental laws are subject to frequent change and many of them have become more stringent. In some cases, they can impose liability for the entire cost of cleanup on any responsible party without regard to negligence or fault and impose liability on us for the conduct of others or conditions others have caused, or for our acts that complied with all applicable requirements when we performed them.

It is not possible for us to estimate reliably the amount and timing of all future expenditures related to environmental and legal matters and other contingencies because:

- Some sites are in the early stages of investigation, and other sites may be identified in the future;

- Cleanup requirements are difficult to predict at sites where remedial investigations have not been completed or final decisions have not been made regarding cleanup requirements, technologies or other factors that bear on cleanup costs;

- Environmental laws frequently impose joint and several liability on all potentially responsible parties, and it can be difficult to determine the number and financial condition of other potentially responsible parties and their share of responsibility for cleanup costs;

- Environmental laws and regulations are continually changing, and court proceedings are inherently uncertain; and

- Some legal matters are in the early stages of investigation or proceeding or their outcomes otherwise may be difficult to predict, and other legal matters may be identified in the future.

Although our management believes that it has established appropriate reserves for cleanup costs, due to these uncertainties we could be required to provide significant additional reserves in the future, which would adversely affect our results of operations and possibly our financial position.

More detailed information with respect to the matters discussed above is set forth under the caption "Environmental Regulations" in our 2001 Annual Report on Form 10-K, which is incorporated into this prospectus by reference.

OUR DEBT LEVEL MAY LIMIT OUR FINANCIAL FLEXIBILITY.

As of June 30, 2002, our balance sheet, which fully consolidates the debt of Pure, showed that we had approximately $3.12 billion of total debt outstanding and a total-debt-to-total-capital ratio of 46 percent. In addition, Unocal Capital Trust, or Trust, a consolidated finance subsidiary, has $522 million of convertible preferred securities outstanding, which represent beneficial interests in a like amount of subordinated debt issued to the Trust by Unocal. We may also incur additional debt in the future, including in connection with acquisitions, recapitalizations and refinancings. The level of our debt could have several important effects on our future operations, including, among others:

- A significant portion of our cash flow from operations will be applied to the payment of principal and interest on the debt and will not be available for other purposes;

- Credit rating agencies have changed, and may continue to change, their ratings of our debt and other obligations as a result of changes in our debt level, financial condition, earnings and cash flow, which in turn impact the costs, terms and conditions and availability of financing;

- Covenants contained in our existing and future debt arrangements will require us to meet financial tests that may affect our flexibility in planning for and reacting to changes in our business, including possible acquisition opportunities;

- Our ability to obtain additional financing for working capital, capital expenditures, acquisitions, general corporate and other purposes may be limited or burdened by increased costs or more restrictive covenants;

- We may be at a competitive disadvantage to similar companies that have less debt; and

- Our vulnerability to adverse economic and industry conditions may increase.

A CHANGE OF CONTROL OF UNOCAL COULD RESULT IN THE ACCELERATION OF OUR OUTSTANDING BANK BORROWINGS AND TRIGGER VARIOUS CHANGE-OF-CONTROL PROVISIONS INCLUDED IN EMPLOYEE AND DIRECTOR PLANS AND AGREEMENTS.

Two of our bank credit facilities, under which we can borrow an aggregate of up to $1,000,000,000, provide for the termination of their loan commitments and require the prepayment of all outstanding borrowings under the facilities in the event that (1) any person or group becomes the beneficial owner of more than 30 percent of our then outstanding voting stock other than in a transaction

having the approval of our board of directors, at least a majority of which are continuing directors, or (2) if continuing directors shall cease to constitute at least a majority of the board. If this situation were to occur, we would likely be required to refinance the outstanding indebtedness under these credit facilities. There can be no assurance that we would be able to refinance this indebtedness or, if a refinancing were to occur, that the refinancing would be on terms favorable to us.

Under various employee and director plans and agreements, in the event of a change in control, restricted stock would become unrestricted, unvested options and phantom units would vest, performance shares, performance bonus awards and incentive compensation would be paid out, and directors' units would be paid out if the director has so elected. We have also entered into employment agreements and other agreements with certain of our employees containing change-of-control provisions.

We have adopted an enhanced severance program for approximately 2,800 U.S. payroll employees not represented by collective bargaining agreements and a limited number of international employees in the event they lose their jobs through a change of control.

UNOCAL MAY ISSUE PREFERRED STOCK, THE TERMS OF WHICH COULD ADVERSELY AFFECT THE VOTING POWER OR VALUE OF ITS COMMON STOCK.

Unocal's Restated Certificate of Incorporation, which is filed as Exhibit 3.1 to our 2001 Annual Report on Form 10-K, authorizes it to issue, upon approval of our board of directors, but without the approval of our stockholders, one or more series of preferred stock having such preferences, powers and relative, participating,

optional and other rights, including preferences over our common stock respecting dividends and distributions, as our board of directors generally may determine. The terms of one or more series of preferred stock could adversely impact the voting power or value of Unocal's common stock. For example, we might grant holders of preferred stock the right to elect some number of our directors in all events or on the happening of specified events or the right to veto specified transactions. Similarly, the repurchase or redemption rights or liquidation preferences Unocal might assign to holders of preferred stock could affect the residual value of the common stock.

PROVISIONS IN UNOCAL'S CORPORATE DOCUMENTS AND DELAWARE LAW COULD DELAY OR PREVENT A CHANGE OF CONTROL OF UNOCAL, EVEN IF THAT CHANGE WOULD BE BENEFICIAL TO ITS STOCKHOLDERS.

The existence of some provisions in Unocal's corporate documents and Delaware law could delay or prevent a change of control of Unocal, even if that change would be beneficial to our stockholders. Unocal's Restated Certificate of Incorporation and Bylaws, which are filed as Exhibits 3.1 and 3.2 to our 2001 Annual Report on Form 10-K, contain provisions that may make acquiring control of Unocal difficult, including:

- Provisions relating to the classification, nomination and removal of directors;

- A provision prohibiting stockholder action by written consent;

- A provision that allows only our board of directors to call a special meeting of our stockholders;

- Provisions regulating the ability of our stockholders to bring matters for action before annual meetings of our stockholders; and

- The authorization given to our board of directors to issue and set the terms of preferred stock.

In addition, Unocal has also adopted a stockholder rights plan, which would cause extreme dilution to any person or group that attempts to acquire a significant interest in Unocal without advance approval of our board of directors, while a provision of the Delaware General Corporation Law would impose some restrictions on mergers and other business combinations between Unocal and any holder of 15 percent or more of our outstanding common stock.

UNOCAL MAY REDUCE OR CEASE TO PAY DIVIDENDS ON ITS COMMON STOCK.

We can provide no assurance that Unocal will continue to pay dividends at its current rate or at all. The amount of cash dividends, if any, to be paid in the future will depend upon their declaration by Unocal's board of directors and upon Unocal's financial condition, results of operations, cash flow, the level of our capital and exploration expenditures, our future business prospects and other related matters that Unocal's board of directors deems relevant.

In addition, under the terms of the outstanding preferred securities of Unocal Capital Trust and the Unocal subordinated debt securities held by the Trust, in which the trust preferred securities represent beneficial interests, Unocal has the right under certain circumstances to suspend the payment to the Trust of interest on the debt securities, in which event the Trust has the right to suspend the payment of distributions on the trust preferred securities. In this situation, Unocal would be prohibited from paying dividends on the common stock.

FORWARD-LOOKING INFORMATION

Some of the statements contained or incorporated by reference in this prospectus discuss our plans and strategies for our business or make other forward-looking statements, as this term is defined in the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, that address activities, events or developments that we intend, expect, project, believe or anticipate will or may occur in the future are forward-looking statements. The words "believes," "anticipates," "estimates," "expects," "plans," "intends" and similar expressions are intended to identify these forward-looking statements, but are not the exclusive means of identifying them. These statements are based on assumptions and assessments made by our management in light of its experience and its perception of historical trends, current conditions, expected future developments and other factors our management believes to be appropriate. These forward-looking statements are subject to a number of risks and uncertainties, some of which our management has not yet identified. Any such forward-looking statements are not guarantees of future performances and actual results, developments and business decisions may differ from those envisaged by such forward-looking statements as the result of various important factors, certain of which but not all of which are discussed at pages 51-53 of our 2001 Annual Report on Form 10-K and in other documents incorporated by reference in this prospectus.

The factors described in the documents we have incorporated by reference and in the "Risk Factors" section of this prospectus are not necessarily all of the important factors that could cause actual results, performance or achievements to differ materially from those expressed in, or implied by, our forward-looking statements. Other unknown or unpredictable factors also could

have material adverse effects on our future results, performance or achievements. Accordingly, our actual results may differ from those expressed in, or implied by, our forward-looking statements. We undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or circumstances or otherwise.

BACKGROUND AND REASONS FOR THE OFFER AND SUBSEQUENT MERGER

The following discussion presents background information concerning the offer and merger and describes our reasons for undertaking the proposed transaction at the present time. Please see "Additional Factors for Consideration by Pure Stockholders" beginning on page 25 for further information relating to the proposed transaction.

PERIOD PRIOR TO THE FORMATION OF PURE

Toward the end of the 1990's, we began to recognize that our assets and operations in west Texas and the Permian Basin were non-core to our overall business for several reasons, including:

- the relatively small concentration of our assets and the facts that they were primarily oil producing rather than natural gas assets, and had a relatively high cost structure;

- our strong focus on the offshore Gulf of Mexico;

- the management attention required to operate these assets, given their limited size, scope and profitability; and

- the low net operating margin and profitability of the assets, given the commodity price environment at the time.

By 1999, we considered disposing of these assets in a negotiated cash sale. Only a few buyers expressed interest. In our view, a cash sale at that time would have resulted in an unacceptably low sales price that would have represented less than full value. In addition, management believed that Unocal's west Texas and Permian Basin assets held upside potential that would not be captured in proceeds from an outright sale. Given these considerations, we sought alternatives to an outright cash sale of the assets.

Among the alternatives we considered was combining our assets with those of a firm that had lower operating costs and which was more focused on the Permian and San Juan Basins. Unocal would take an equity interest in the combined entity and ensure that the new entity's management had the skills to successfully operate the new combination of assets in the Permian and San Juan Basins.

Merging our Permian Basin business unit with a small, publicly traded independent, Titan Exploration, Inc. or Titan, offered us many of the benefits we sought through a cash sale. In a combined entity, we believed that Titan's management would be able to develop and exploit new opportunities and that their business development acumen and efficient field operations would allow for more growth than we could expect on our own. By taking a majority interest in the combined business, we would benefit from any incremental earnings and appreciation in the value of the assets. In addition, the new business combination achieved a number of other practical objectives including, among others:

- enhancing stockholder value for us by partnering with a seasoned management team and disciplined workforce that was well positioned to

take advantage of consolidation and emerging opportunities in the Permian and San Juan Basins;

- increasing financing flexibility with respect to the new entity's operations by allowing the new entity to directly access markets for capital rather than rely on Unocal's competitive internal capital allocation process;

- enhancing strategic focus and increasing the speed at which the new entity could respond to emerging opportunities and to changes in the marketplace; and

- providing more targeted incentives to the new entity's management and employees.

THE INITIAL FORMATION OF PURE

On December 13, 1999, Titan and Union Oil entered into an agreement to merge Titan and the Permian Basin business unit of Union Oil into a new company, Pure Resources, Inc. Prior to the merger, Titan's business was focused on oil and gas exploration and production in the Permian Basin of west Texas and southeastern New Mexico, the Brenham Dome area of south central Texas and the central Gulf Coast region of Texas. Titan's common stock was publicly traded and quoted on the NASDAQ prior to its agreement to merge and continued to be traded and quoted on the NASDAQ through the time of the merger.

On May 24, 2000, the Titan stockholders approved the proposed combination and on May 25, 2000, Union Oil and Titan closed the merger. The merger was treated as a business combination for accounting purposes, with Titan treated as the party acquired by Pure. The transaction was intended to qualify as tax free for U.S. federal income tax purposes. Pure's common stock began trading on the New York Stock Exchange under the symbol "PRS" on May 26, 2000.

Immediately following completion of the merger, Pure had approximately 50 million shares of common stock outstanding. Union Oil held approximately 65.4% (32.7 million shares) of the originally issued shares of Pure common stock. The remaining 34.6% (17.3 million shares) was held by the previous holders of Titan common stock.

KEY FACTORS MOTIVATING THE OFFER

Since the formation of Pure in 2000, a number of developments and opportunities have led to our decision to undertake the offer at the present time. Some of the key factors are as follows:

- changes in the outlook for natural gas prices and general economic conditions;

- the potential to optimize our combined investment portfolio (including the identification of potential core business opportunities relating to the acquired assets);

- the potential to realize synergies, cost savings and risk diversification opportunities;

- the opportunity to implement operational improvements; and

- the opportunity to minimize potential conflicts of interest.

Changes in Natural Gas Price Outlook and General Economic Conditions

As compared to 1999, we believe it is reasonable to expect sustained higher natural gas prices in North America over the next several years. As a result, further exposure to assets that are sensitive to natural gas prices can be a significant benefit to Unocal.

Stronger natural gas prices in North America make the deep and technically challenging natural gas opportunities in Pure's portfolio more attractive to us. These opportunities require not only greater capital than Pure may be able to access on its own but also sophisticated drilling and completion technology.

Separately, given our larger reserve base and financial strength, we believe that we will have greater access to the debt and equity financings that will likely be necessary to fund the current and future opportunities in Pure's portfolio. With tightened credit markets, it may become difficult for a company the size of Pure to obtain financing on terms that would enable it to successfully bid for new natural gas and oil producing assets as they come on the market. In addition, we believe that in light of the continued volatility in the oil and gas markets, Pure's current limited access to capital could hamper its ability to take full advantage of other business opportunities.

Opportunities For Portfolio Optimization

A successful offer and subsequent merger would give us greater control over Pure's balance sheet and operating cash flow. Unocal could deploy cash flow from the Pure assets to continue the development of certain Pure initiatives while re-directing excess cash flow to the best opportunities in its worldwide energy project portfolio.

A number of Pure assets are likely to become a core part of our global portfolio. These might include the significant deeper gas assets, mainly in the Permian Basin, which complement our overall North American natural gas strategy and our strong existing positions in the Gulf region, Canada and Alaska. Development of these assets could allow us to increase our reserves-to-production ratio with respect to our North American operations. In addition, there are Pure assets that we would look to divest. These would likely be assets that could be deemed core to a company of Pure's size, but would not be core to Unocal. The higher and more stable natural gas price environment that we are experiencing suggests that divestitures over the near term will allow us to realize a full and fair value for those assets. As a global company, Unocal's knowledge of and access to project opportunities world-wide enables us to re-deploy capital raised through asset dispositions on attractive terms.

Potential for Synergies, Cost Savings and Risk Diversification

We believe that there would be opportunities to reduce Pure's pretax costs by approximately $15 million a year, by eliminating unnecessary functions and activities. We anticipate that significant cost savings could be achieved through the following steps:

- eliminating redundant offices and overhead, administration and other costs relating to each entity's status as a public company;

- combining Pure's Permian and San Juan assets with our existing portfolio into a single U.S. onshore business unit;

- consolidating Pure's oil and gas marketing efforts under Unocal Midstream and Trade operations;

- lowering exploration and geological and geophysical expenses; and

- transitioning Pure's Gulf of Mexico operations to our Gulf Region U.S. business unit, which is focused on the Gulf of Mexico shelf, eliminating redundant overhead, data acquisition costs and prospect generation activities.

Separately, because of Pure's geographic concentration, any regional economic or natural events that increase costs, reduce availability of equipment or supplies, reduce demand or limit production, may impact Pure disproportionately as compared to Unocal as a whole. The combined business would be significantly more geographically diversified and less adversely affected by negative events in the region in which Pure now operates.

Operational Improvements

We see opportunities to integrate the operational strengths of both Pure and Unocal to improve overall performance. Pure has developed a cost discipline in its field operations and we intend to retain this and other positive attributes of the Pure operations and business development culture. At the same time, Unocal has developed innovative, low-cost drilling and completion technologies in the Gulf of Mexico, Indonesia and Thailand. We plan to apply these technologies to selected Pure assets, including some of the complex and difficult deep drilling opportunities in the Permian Basin. Our goal is to achieve cost reductions and efficiencies in drilling operations comparable to those we have achieved in other areas of the world.

Minimizing Potential Conflicts of Interest

We believe that among the benefits of the proposed transaction with Pure is the elimination of the potential for conflicts of interest between Unocal and Pure. Consequently, time and resources can be focused on the combined business and fully exploiting under-utilized assets as opposed to inter-company competition and general corporate governance concerns.

In connection with Pure's initial formation, Union Oil and Pure entered into a Business Opportunities Agreement in order to minimize the potential for conflicts of interest between the companies and to permit us to continue to conduct our business without interference from or claims by Pure. See "Certain Effects of the Offer -- Relationships with Pure -- Business Opportunities Agreement" beginning on page 46.

As part of that agreement, Pure agreed that it has no interest or expectation to participate in business opportunities developed by Union Oil in accordance with standards set forth in the Business Opportunities Agreement. Pure also agreed that, without the consent of Union Oil, it will not enter any business outside its traditional oil and gas exploration, development and production activities. Further, Pure agreed that it will not pursue any business opportunities that are outside of certain defined geographic areas (referred to as the Designated Areas), that were originally bounded by the outermost perimeter that surrounded Titan's assets and the assets of Union Oil's Permian Basin business unit. Unocal expected that, as a result of these arrangements, Union Oil would pursue opportunities that would largely be distinct from those undertaken by Pure.

In practice, the expansion of Pure's business has led to some conflicts between Pure and Unocal. On four occasions Pure has requested that Union Oil waive or amend the Business Opportunities Agreement. In each case we granted

limited waivers of our rights in order to allow Pure to pursue certain acquisitions and investments. These acquisitions and investments involved some assets located outside the Designated Areas.

Currently, Pure is contractually prohibited by the Business Opportunities Agreement from conducting business outside of the continental United States and beyond designated areas in the offshore Gulf of Mexico region of the United States related to programs and partnerships Pure acquired in transactions after its formation. Further, subject to limited exceptions, Pure is prohibited from conducting business without our consent in the designated offshore areas if the opportunity relates to a prospect with gross unrisked reserve target potential of less than 20 billion cubic feet of natural gas.

On September 2, 2002, in accordance with a limited waiver we granted Pure on May 9, 2001, we exercised our right to notify Pure that the limited waiver we granted Pure to invest in and operate certain prospects in the offshore area of the Gulf of Mexico will terminate on March 31, 2003. The termination of the limited waiver will not require Pure to divest assets which it now owns in the offshore area of the Gulf of Mexico.

The restrictions on Pure's ability to expand, develop and explore a number of offshore assets it acquired since its formation may limit Pure's ability to realize fully the value of a portion of those acquired assets. However, the expansion of Pure's business outside the Designated Area agreed to at the time of Pure's formation has given rise to, and is expected in the future to increasingly give rise to, actual and potential conflicts of interest between Unocal and Pure, and involve areas which are of growing importance to Unocal. The consummation of the proposed transaction would eliminate these actual and potential conflicts and the potential limitation on development of Pure's business set forth in the Business Opportunities Agreement as modified to date.

FINANCIAL IMPACT OF THE OFFER ON UNOCAL

The consummation of the offer and merger would not have a significant impact on our financial condition. As part of the offer and merger Unocal would issue up to 11,516,342 shares of common stock (or, if all Pure stock options vest and are exercised, up to a maximum of 15,570,020 shares of Unocal common stock would be issued). The acquisition of Pure is expected to be neutral to Unocal's earnings per share other than any applicable non-recurring charges that may be required upon completion of the proposed transaction. We expect a slight improvement in Unocal's debt-to-total capitalization ratio. Furthermore, we anticipate the acquisition would increase access to available annual cash flow by approximately $200 million, which could be reinvested in Unocal's worldwide portfolio or used for debt reduction.

Prior to and following the consummation of the offer and merger, Unocal intends to focus its efforts on improving its net operating margins. Unocal believes that our production and reserve growth should not be at the expense of net operating margins. In contrast to Pure's approach, which has focused on building production and reserves, Unocal would focus on increasing earnings attributable to the acquired assets. Accordingly, we intend to pursue the attractive growth opportunities that Pure has developed or identified, with a concurrent focus on maintaining or increasing earnings margins.

PRIOR DISCUSSIONS RELATING TO POTENTIAL EXTRAORDINARY TRANSACTIONS

From time to time conversations have occurred between representatives of Unocal and Jack D. Hightower, Pure's Chairman, President and Chief Executive Officer, concerning the possibility of Unocal making an offer to acquire the

equity interest in Pure that it did not already own. All of these conversations were preliminary in nature, and at no time were any agreements reached. During the period from June to September 2001, preliminary discussions were held which also included a due diligence investigation of Pure by Unocal. The discussions and diligence investigation were halted following the events of September 11, 2001. From time to time thereafter, Mr. Hightower has contacted Unocal management personnel to discuss the possibility of such an acquisition; however, these discussions did not progress. Unocal's decision to proceed with the offer and to announce it on August 20, 2002 was made without the participation of Pure's board of directors or its management. Prior to the announcement of the offer, Unocal did not make any proposals to Pure or its management regarding Unocal's acquisition of the minority interest in Pure.

THE UNOCAL BOARD'S DECISION TO COMMENCE THE OFFER

After considering the factors described above, our board of directors determined at a telephonic meeting held on August 20, 2002, that it was in the best interests of Unocal and its stockholders to proceed with the offer and merger. The board authorized us to propose the business combination through an offer in which Pure's public stockholders would be offered 0.6527 of a share of Unocal common stock for each share of Pure's common stock they own.

In making this decision, our board believed that greater value could be achieved for both Unocal and Pure stockholders by combining Unocal's financial strength, management experience and business strategy with Pure's attractive assets and operations. In the board's judgment, with our larger asset base, earnings potential and cash flow, the combined company would have more efficient access to capital and improved operations to execute its strategic plans. Accordingly, we believe that both Unocal stockholders and Pure stockholders who receive shares of Unocal common stock in this transaction would benefit from our successful execution of these strategies and that we can realize greater stockholder value as a combined company. See "Additional Factors for Consideration by Pure Stockholders" beginning on page 25 for additional matters for your consideration.

After the board meeting, Terry G. Dallas, Unocal's Executive Vice President and Chief Financial Officer, delivered a letter to the Pure board outlining the offer. Simultaneously, we issued a press release disclosing to the public the offer and its material terms. The following is the text of Mr. Dallas's letter to the Pure board:

August 20, 2002

The Board of Directors
Pure Resources, Inc.
500 West Illinois
Midland, Texas 79701

Gentlemen:

It has become clear to us that the best interests of our respective stockholders will be served by Unocal's acquisition of the shares of Pure Resources that we do not already own. We believe that a full combination of our businesses will yield significant efficiencies and, by fully integrating Pure into the Union Oil family of operations, will provide Pure stockholders with the ability to share in a greater scope of opportunities than are available to them as Pure stockholders. In addition, the transaction will provide Pure stockholders with a currency that has substantially greater liquidity than Pure has been able to provide.

Unocal recognizes that a strong and stable on-shore, North America production base will facilitate the execution of its North American gas strategy. The skills and technology required to maximize the benefits to be realized from that strategy are now divided between Union Oil and Pure. Sound business strategy calls for bringing those assets together, under one management, so that they may be deployed to their highest and best use. For those reasons, we are not interested in selling our shares in Pure. Moreover, if the two companies are combined, important cost savings should be realized and potential conflicts of interest will be avoided.

Consequently, our Board of Directors has authorized us to make an exchange offer pursuant to which the stockholders of Pure (other than Union Oil) will be offered 0.6527 shares of common stock of Unocal for each outstanding share of Pure common stock they own in a transaction designed to be tax-free. Based on the $34.09 closing price of Unocal's shares on August 20, 2002, our offer provides a value of approximately $22.25 per share of Pure common stock and a 27% premium to the closing price of Pure common stock on that date.

Unocal's offer is being made directly to Pure's stockholders. We believe that it will be favorably received by them due to the substantial premium to Pure's market price, the attractiveness of Unocal stock and the opportunity for greater liquidity. Pure stockholders, through their ownership of Unocal common stock, will continue to participate in Pure's business and will also participate in the other attractive opportunities that Unocal has in its inventory.

Our offer will be conditioned on the tender of a sufficient number of shares of Pure common stock such that, after the offer is completed, we will own at least 90% of the outstanding shares of Pure common stock and other customary conditions. Another of our conditions will be that Pure will not enter into any transactions which are outside the ordinary course of business. Assuming that the conditions to the offer are satisfied and that the offer is completed, we will then effect a "short form" merger of Pure with a subsidiary of Unocal as soon as practicable thereafter. In this merger, the remaining Pure public stockholders will receive the same consideration as in the exchange offer, except for those stockholders who choose to exercise their appraisal rights.

We intend to file our offering materials with the Securities and Exchange Commission and commence our exchange offer on or about September 5, 2002. Unocal is not seeking, and as the offer is being made directly to Pure's stockholders, Delaware law does not require approval of the offer from Pure's Board of Directors. We, however, encourage you to consult with your outside counsel as to the obligations of Pure's Board of Directors under the U.S. tender offer rules to advise the stockholders of your recommendation with

respect to our offer. Also, enclosed is a copy of the press release that we are issuing in connection with the offer.

Sincerely,

/s/ TERRY G. DALLAS

Terry G. Dallas
Executive Vice President and Chief Financial Officer

On August 26, Pure announced that it engaged Credit Suisse First Boston Corporation and Petrie Parkman & Co., Inc. as financial advisors and Baker Botts L.L.P. as legal counsel, to assist a special committee of its board of directors

in performing its duties to the holders of Pure's common stock in connection with our offer. We are commencing this offer on September 5.

ADDITIONAL FACTORS FOR CONSIDERATION BY PURE STOCKHOLDERS

In deciding whether or not to tender your shares of Pure common stock, you should consider the factors set forth under "Risk Factors" beginning on page 9 and the other factors set forth in this prospectus. While we believe the offer should be attractive to you as a Pure stockholder, you should also consider the following matters:

- As a stockholder of Unocal, your interest in the performance and prospects of Pure would only be indirect and in proportion to your share ownership in Unocal. You therefore may not realize the same financial benefits of future appreciation in the value of Pure, if any, that you may realize if the offer and the merger were not completed and you remain a Pure stockholder.

- As a stockholder in Unocal, your investment will be exposed to international, political and non-U.S. sovereign risks and events that are likely to have little or no effect on Pure.

- An investment in a company of Pure's size may be associated with greater risk and a greater potential for gain than an investment in a much larger company like Unocal.

- As this offer has been made directly to Pure stockholders by means of an offer, Unocal controls the conditions, timing and price of the offer, and has reserved the right to unilaterally modify any of the terms of the offer.

- The liquidity of Pure common stock may be adversely affected if Unocal determines, in its sole discretion, to accept fewer shares in the offer than the number of shares that would allow it to hold 90% of Pure's issued and outstanding common stock.

- The exchange ratio reflects a value per share of Pure common stock above the closing price of Pure common stock on May 26, 2000, immediately after its formation, of $14.75 and below the highest trading price at which shares of Pure common stock have traded, $25.30, which was reached on June 5, 2001.

In addition to the foregoing, we are aware that on or about August 21, 2002 and September 3, 2002, individual stockholders of Pure filed complaints in the Delaware Court of Chancery purporting to commence class action lawsuits against Unocal, Union Oil Company of California, Pure and each of the individual directors of Pure. Additionally, a similar lawsuit was commenced in Superior Court for the County of Los Angeles, Central District on August 27, 2002. In general, the complaints allege, among other things: (1) breaches of fiduciary duty by Unocal, Pure and the members of Pure's board in connection with the offer and the subsequent merger; (2) that the consideration we are offering is inadequate; and (3) that we are acting to further our own interests at the expense of the holders of Pure's common stock. Among other remedies, the complaints seek to enjoin the offer and subsequent merger or, alternatively, damages in an unspecified amount and rescission in the event the merger occurs. Unocal and Union Oil view the complaints as being without merit. See "Certain Legal Matters and Regulatory Approvals -- Stockholder Litigation" beginning on page 44 for a more detailed discussion of these lawsuits.

FINANCIAL FORECASTS

PURE FORECASTS

It is our understanding that Pure does not as a matter of course make public any projections as to future performance, earnings or net asset value, and the projections set forth below are included in this prospectus only because this information was obtained by Unocal in connection with its existing stockholdings in Pure. To Unocal's knowledge, the projections were not prepared with a view to public disclosure or compliance with the published guidelines of the SEC or the guidelines established by the American Institute of Certified Public Accountants regarding projections or forecasts. It is Unocal's belief that the projections do not purport to present operations or financial condition in accordance with accounting principles generally accepted in the U.S., and that Pure's independent auditors have not examined or compiled the projections and accordingly assume no responsibility for them. It is Unocal's belief that Pure's internal financial forecasts (upon which the projections provided to Unocal were based) are, in general, prepared solely for internal use and capital budgeting and other management decisions and are subjective in many respects and thus susceptible to interpretations and periodic revision based on actual experience and business developments. It is also Unocal's belief that the projections also reflect numerous assumptions made by management of Pure with respect to industry performance, general business, economic, market and financial conditions and other matters, including prices of oil and gas and success of exploration and production activities, all of which are difficult to predict, many of which are beyond Pure's control, and ersonnel.

We are the beneficiary of life insurance policies on the life of our Chairman and Chief Executive Officer, Mr. J. S. Whang, in the amount of $2.0 million, but there is no assurance that such amount will be sufficient to cover the cost of finding and hiring a suitable replacement for Mr. Whang. It may not be feasible for any successor to maintain the same business relationships that Mr. Whang has established. If we were to lose the services of Mr. Whang for any reason, it could have a material adverse affect on our business.

We also depend on the management efforts of our officers and other key personnel and on our ability to attract and retain key personnel. During times of strong economic growth, competition is intense for highly skilled employees. There can be no assurance that we will be successful in attracting and retaining such personnel or that we can avoid increased costs in order to do so. There can be no assurance that employees will not leave Amtech or compete against us. Our failure to attract additional qualified employees, or to retain the services of key personnel, could negatively impact our financial position and results of operations.

We may not be able to keep pace with the rapid change in the technology we use in our products.

Success in the solar and semiconductor equipment industries depends, in part, on continual improvement of existing technologies and rapid innovation of new solutions. For example, the semiconductor industry continues to shrink the size of semiconductor devices. These and other evolving customer needs require us to respond with continued development programs.

Technical innovations are inherently complex and require long development cycles and appropriate professional staffing. Our future business success depends on our ability to develop and introduce new products, or new uses for existing products, that successfully address changing customer needs, win market acceptance of these new products or uses and manufacture any new products in a timely and cost-effective manner. To realize future growth through technical innovations in the solar and semiconductor industries, we must either acquire the technology through merger and acquisition activity or through the licensing of products from our technology partners. Our failure to develop and introduce new products, technologies or uses for existing products in a timely manner and continually find ways of reducing the cost to produce them in response to changing market conditions or customer requirements, could have a material adverse affect on our business.

Acquisitions can result in an increase in our operating costs, divert management's attention away from other operational matters and expose us to other risks associated with acquisitions.

We continually evaluate potential acquisitions and consider acquisitions an important part of our future growth strategy. In the past, we have made acquisitions of, or significant investments in, other businesses with synergistic products, services and technologies and plan to continue to do so in the future. Acquisitions, including our acquisition of R2D, involve numerous risks, including, but not limited to:

- difficulties and increased costs in connection with integration of geographically diverse personnel, operations, technologies and products of acquired companies;
- diversion of management's attention from other operational matters;
- the potential loss of key employees of acquired companies;
- lack of synergy, or inability to realize expected synergies, resulting from the acquisition;
- the risk that the issuance of our common stock, if any, in an acquisition or merger could be dilutive to our shareholders, if anticipated synergies are not realized; and
- acquired assets becoming impaired as a result of technological advancements or worse-than-expected performance of the acquired company.

Our financial position and results of operations may be materially harmed if we are unable to recoup our investment in research and development.

The rapid change in technology in our industry requires that we continue to make investments in research and development in order to enhance the performance and functionality of our products, to keep pace with competitive products and to satisfy customer demands for improved performance, features and functionality. There can be no assurance that revenue from future products or enhancements will be sufficient to recover the development costs associated with such products or enhancements, or that we will be able to secure the financial resources necessary to fund future development. Research and development costs are typically incurred before we confirm the technical feasibility and commercial viability of a product, and not all development activities result in commercially viable products. In addition, we cannot ensure that products or enhancements will receive market acceptance, or that we will be able to sell these products at prices that are favorable to us. If we are unable to sell our products at favorable prices, or if our products are not accepted by the markets in which we operate, it could have a material adverse affect on our business.

If third parties violate our proprietary rights, in which we have made significant investments, such events could result in a loss of value of some of our intellectual property or costly litigation.

Our success is dependent in part on our technology and other proprietary rights. We own various United States and international patents and have additional pending patent applications relating to some of our products and technologies. The process of seeking patent protection is lengthy and expensive, and we cannot be certain that pending or future applications will actually result in issued patents, or that issued patents will be of sufficient scope or strength to provide meaningful protection or commercial advantage to us. Other companies and individuals, including our larger competitors, may develop technologies that are similar or superior to our technology or design around the patents we own or license. We also maintain trademarks on certain of our products and claim copyright protection for certain proprietary software and documentation. However, we can give no assurance that our trademarks and copyrights will be upheld or successfully deter infringement by third parties. Recently, the patent covering technology that we license and use in our manufacture of insert carriers has expired, which may have the effect of diminishing or eliminating any competitive advantage we may have with respect to this manufacturing process.

While patent, copyright and trademark protection for our intellectual property is important, we believe our future success in highly dynamic markets is most dependent upon the technical competence and creative skills of our personnel. We attempt to protect our trade secrets and other proprietary information through confidentiality agreements with our customers, suppliers, employees and consultants and through other security measures. We also maintain exclusive and non-exclusive licenses with third parties for the technology used in certain products. However, these employees, consultants and third parties may breach these agreements, and we may not have adequate remedies for wrongdoing. In addition, the laws of certain territories in which we develop, manufacture or sell our products may not protect our intellectual property rights to the same extent as do the laws of the United States.

We may face intellectual property infringement claims that could be time-consuming and costly to defend and could result in our loss of significant rights and the assessment of treble damages.

From time to time, we have received communications from other parties asserting the existence of patent rights or other intellectual property rights that they believe cover certain of our products, processes, technologies or information. In such cases, we evaluate our position and consider the available alternatives, which may include seeking licenses to use the technology in question on commercially reasonable terms or defending our position. We cannot ensure that licenses can be obtained, or if obtained will be on acceptable terms, or that litigation or other administrative proceedings will not occur.

Some of these claims may lead to litigation. We cannot assure you that we will prevail in these actions, or that other actions alleging misappropriation or misuse by us of third-party trade secrets, infringement by us of third-party patents and trademarks or the validity of our patents, will not be asserted or prosecuted against us. Intellectual property litigation, regardless of outcome, is expensive and time-consuming, could divert management's attention from our business and have a material negative effect on our business, operating results or financial condition. If there is a successful claim of infringement against us, we may be required to pay substantial damages (including treble damages if we were to be found to have willfully infringed a third party's patent) to the party claiming infringement, develop non-infringing technology, stop selling or using technology that contains the allegedly infringing intellectual property or enter into royalty or license agreements that may not be available on acceptable or commercially practical terms, if at all. Our failure to develop non-infringing technologies or license the proprietary rights on a timely basis could harm our business. Parties making infringement claims on future issued patents may be able to obtain an injunction that would prevent us from selling or using our technology that contains the allegedly infringing intellectual property, which could harm our business.

Our reliance on sales to a few major customers and granting credit to those customers places us at financial risk.

We currently sell to a relatively small number of customers, and we expect our operating results will likely continue to depend on sales to a relatively small number of customers for the foreseeable future, as well as the ability of these customers to sell products that require our products in their manufacture. Yingli accounted for 28%, 4% and 20% of our net revenue in fiscal 2010, 2009 and 2008, respectively. Many of our customer relationships have been developed over a short period of time and certain customers are in their preliminary stages of development. The loss of sales to any of these customers would have a significant negative impact on our business. Our agreements with these customers may be cancelled if we fail to meet certain product specifications, materially breach the agreement or in the event of bankruptcy, and our customers may seek to renegotiate the terms of current agreements or renewals. We cannot be certain that these customers will generate significant revenue for us in the future nor that these customer relationships will continue to develop. If our relationships with our other customers do not continue to develop, we may not be able to expand our customer base or maintain or increase our revenue.

As of September 30, 2010, three customers individually accounted for 25%, 11% and 11% accounts receivable, respectively. Yingli accounts for 25% of our accounts receivable balance as of September 30, 2010. A concentration of our receivables from one or a small number of customers places us at risk. If any one or more of our major customers does not pay us it could adversely affect our financial position and results of operations. We attempt to manage this credit risk by performing credit checks, by requiring significant partial payments prior to shipment where appropriate and by actively monitoring collections. We also require letters of credit of certain customers depending on the size of the order, type of customer or its creditworthiness and its country of domicile.

If any of our customers cancels or fails to accept a large system order, our financial position and results of operations could be materially and adversely affected.

Our backlog includes orders for large systems, such as our diffusion furnaces, with system prices of up to and in excess of $1.0 million depending on the system configuration, options included and any special requirements of the customer. Because our orders are typically subject to cancellation or delay by the customer, our backlog at any particular point in time is not necessarily representative of actual sales for succeeding periods, nor is backlog any assurance that we will realize revenue or profit from completing these orders. Our financial position and results of operations could be materially and adversely affected should any large systems order be cancelled prior to shipment, or not be accepted by the customer. We have experienced cancellations in the past. A significant change in the liquidity or financial position of any of our customers that purchase large systems could have a material impact on the collectability of our accounts receivable and our future operating results. Our backlog does not provide any assurance that we will realize revenue or profit from those orders or indicate in which period net revenue will be recognized, if ever.

Our business might be adversely affected by a decline in our sales to foreign customers, significant exchange rate fluctuations and foreign laws.

During fiscal 2009, 82% of our net revenue came from customers outside of North America. During fiscal 2010, 93% of our net revenue came from customers outside of North America as follows:

- Asia – 84% (includes 64% to China and 17% to Taiwan); and
- Europe – 9%.

Because of our significant dependence on revenue from international customers, our operating results could be negatively affected by a decline in the economies of any of the countries or regions in which we do business. Each region in the global semiconductor equipment market exhibits unique characteristics that can cause capital equipment investment patterns to vary significantly from period to period. Periodic local or international economic downturns, trade balance issues, political instability and fluctuations in interest and currency exchange rates could negatively affect our business and results of operations. In addition, we face competition from a number of suppliers based in Asia that have certain advantages over suppliers from outside of Asia. These advantages include lower operating and regulatory costs, proximity to customers and favorable tariffs.

We recorded foreign currency transaction losses of $0.4 million during fiscal 2010. In 2009 and 2008, foreign currency transaction gains and losses were less than $0.1 million. While our business generally has not been materially affected in the past by currency fluctuations, there is a risk that it may be materially adversely affected in the future. Such risk includes possible losses due to currency exchange rate fluctuations, possible future prohibitions against repatriation of earnings, or proceeds from disposition of investments, and from possible social and military instability in the case of India, South Korea, Taiwan and possibly elsewhere. Our wholly-owned subsidiary, Tempress Systems, has conducted its operations in The Netherlands since 1995 and during 2005 we established a subsidiary in Germany to conduct the European sales of our Bruce Technologies product line. In October 2007 we completed our acquisition of R2D, a French company. As a result, such operations are subject to the taxation policies, employment and labor laws, transportation regulations, import and export regulations and tariffs, possible foreign exchange restrictions, international monetary fluctuations, and other political, economic and legal policies of that nation, the European Economic Union and the other European nations in which it conducts business. Consequently, we might encounter unforeseen or unfamiliar difficulties in conducting our European operations. Changes in such laws and regulations may have a material adverse effect on our revenue and costs. We are subject to the Foreign Corrupt Practices Act, which may place us at a competitive disadvantage to foreign companies that are not subject to similar regulations.

Significant raw material shortages, supplier capacity constraints, supplier production disruptions, supplier quality issues or price increases could increase our operating costs and adversely impact the competitive positions of our products.

We use a wide range of materials and services in the production of our products including custom electronic and mechanical components, and we use numerous suppliers of materials. We generally do not have guaranteed supply arrangements with our suppliers. Because of the variability and uniqueness of customer orders, we try to avoid maintaining an extensive inventory of materials for manufacturing. Key vendors include suppliers of controllers, quartz and silicon carbide for our diffusion systems, two steel mills capable of producing the types of steel to the tolerances needed for our wafer carriers, an injection molder that molds plastic inserts into our steel carriers, an adhesive manufacturer that supplies the critical glue used in the production of the semiconductor polishing templates and a pad supplier that produces a unique material used to attach semiconductor wafers to the polishing template. We also rely on third parties for certain machined parts, steel frames and metal panels and other components used particularly in the assembly of solar and semiconductor production equipment.

Although we make what we believe are reasonable efforts to ensure that parts are available from multiple suppliers, this is not always practical or even possible; accordingly, some key parts are being procured from a single supplier or a limited group of suppliers. During the semiconductor industry peak years, increases in demand for capital equipment resulted in longer lead-times for many important system components. Future increases in demand could cause delays in meeting shipments to our customers. Because the selling price of some of our systems exceeds $1.0 million, the delay in the shipment of even a single system could cause significant variations in our quarterly revenue. There can be no assurance that our financial position and results of operations will not be materially and adversely affected if, in the future, we do not receive in a timely and cost-effective manner a sufficient quantity and quality of parts to meet our production requirements.

We may not be able to generate sufficient cash flows or obtain access to external financing necessary to fund and expand our operations as planned.

We believe that current cash balances, our existing line of credit, cash flows generated from our operations and additional available financing will provide adequate working capital for at least the next twelve months. However, cash flows may be insufficient for such purposes in the future and we may require additional financing for further implementation of our growth plans. There is no assurance that any additional financing will be available if and when required, or, even if available, that it would not materially dilute the ownership percentage of the then existing shareholders, result in increased expenses or result in covenants or special rights that would restrict our operations.

We are exposed to risks from legislation requiring companies to evaluate their internal control over financial reporting.

Section 404 of the Sarbanes-Oxley Act of 2002 requires our management to report on the effectiveness of our internal control over financial reporting. Our independent registered public accounting firm is required to attest to the effectiveness of our internal control over financial reporting beginning in fiscal 2010. We have an ongoing program to perform the system and process evaluation and testing necessary to comply with these requirements. We have incurred increased expense and have devoted additional management resources to Section 404 compliance and we expect that some increased expense and use of management resources will continue in the future. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the controls system are met. Because of the inherent limitations in all controls systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. If, in the future, our CEO, chief financial officer or independent registered public accounting firm determines that our internal control over financial reporting is not effective as defined under Section 404, investor perceptions of our company may be adversely affected and could cause a decline in the market price of our stock.

Terrorist attacks and threats or actual war may negatively impact all aspects of our operations, revenue, costs and stock price.

The 2001 terrorist attacks in the United States, as well as events occurring in response or connection to them, including future terrorist attacks against United States' targets, rumors or threats of war, actual conflicts involving the United States or its allies or military or trade disruptions impacting our domestic or foreign suppliers of parts, components and subassemblies, may impact our operations, including, among other things, by causing delays or losses in the delivery of supplies or finished goods and decreased sales of our products. More generally, any of these events could cause consumer confidence and spending to decrease or result in increased volatility in the United States and worldwide financial markets and economy. They could also result in economic recession in the United States or abroad. Any of these occurrences could have a significant adverse impact on our financial position and results of operations.

We face the risk of product liability claims or other litigation, which could be expensive and divert management from running our business.

The manufacture and sale of our products, which in operation involve toxic materials, involve the risk of product liability claims. In addition, a failure of one of our products at a customer site could interrupt the business operations of our customer. Our existing insurance coverage limits may not be adequate to protect us from all liabilities that we might incur in connection with the manufacture and sale of our products if a successful product liability claim or series of product liability claims were brought against us. We may also be involved in other legal proceedings or claims and experience threats of legal action from time to time in the ordinary course of our business.

Where appropriate, we intend to vigorously defend all claims. However, any actual or threatened claims, even if not meritorious or material, could result in the expenditure of significant financial and managerial resources. The continued defense of these claims and other types of lawsuits could divert management's attention away from running our business. In addition, required amounts to be paid in settlement of any claims, and the legal fees and other costs associated with such settlement, cannot be estimated and could, individually or in the aggregate, materially harm our financial condition. We may experience higher than expected warranty claims.

We are subject to environmental regulations, and our inability or failure to comply with these regulations could result in significant costs or the suspension of our ability to operate portions of our business.

We are subject to environmental regulations in connection with our business operations, including regulations related to manufacturing and our customers' use of our products. From time to time, we receive notices regarding these regulations. It is our policy to respond promptly to these notices and to take any necessary corrective action. Our failure or inability to comply with existing or future environmental regulations could result in significant remediation liabilities, the imposition of fines and/or the suspension or termination of development, manufacturing or use of certain of our products, each of which could damage our financial position and results of operations.

The Company's income taxes are subject to variables beyond our control.

The Company's net income and cash flow may be adversely affected by conditions affecting income taxes which are outside the Company's control. Examples of the potential uncontrollable circumstances that could affect our tax rate:

- The Company sells and operates globally in the United States, Europe and Asia. Disagreement could occur on the jurisdiction of income and taxation among different governmental tax authorities. Potential areas of dispute may include transfer pricing, intercompany charges and intercompany balances.

- Tax rates may increase and, therefore, have a material adverse affect on our earnings and cash flows.

Most of our production, storage, and administrative facilities are located in close proximity to one another in The Netherlands. Any damage or disruption at these facilities would have a material adverse effect on our business, financial condition and results of operations.

Our production, storage and administrative facilities are located in close proximity to one another in The Netherlands. A natural disaster or other unanticipated catastrophic event, including power interruption, and war, could significantly disrupt our ability to manufacture our products and operate our business. If any of our productions facilities or material equipment were to experience any significant damage or downtime, we would be unable to meet our production targets and our business would suffer.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

We believe that our properties are adequate for our current needs. In addition, we believe that adequate space can be obtained to meet our foreseeable business needs. The following chart identifies the principal properties which we own or lease.

Location	Use	Size	Monthly Rent	Lease Expiration
Solar and semiconductor Equipment Segment				
Tempe, AZ	Corporate	15,000 sf	$12,000	(1)
Billerica, MA	Office, Mfg. & Warehouse	30,000 sf	$18,000	8/31/2011
Heerde, The Netherlands	Office & Mfg.	10,000 sf	Owned	N/A
Vaassen, The Netherlands	Office, Warehouse & Mfg.	54,000 sf	Owned	N/A
Vaassen, The Netherlands	Warehouse	23,000 sf	$11,000	10/31/2011
Vaassen, The Netherlands	Production	38,000 sf	$18,000	2/28/2012
Vaassen, The Netherlands	Warehouse	23,000 sf	$11,000	3/31/2013
Clapiers, France	Office, Mfg. & Warehouse	12,000 sf	$9,000	9/30/2016 (2)
Clapiers, France	Manufacturing	3,000 sf	$3,000	3/30/2016
Le Cres, France	Warehouse	3,000 sf	$2,000	(3)
Polishing Supplies Segment				
Carlisle, PA	Office & Mfg.	22,000 sf	$11,000	6/30/2019

(1) We are currently leasing this property on a month to month basis.

(2) This lease can be cancelled by the company with six months notice beginning October 1, 2010.

(3) We are currently leasing this property on a month to month basis. We are required to give six months notice of cancellation.

ITEM 3. LEGAL PROCEEDINGS

None.

ITEM 4. REMOVED AND RESERVED

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

MARKET INFORMATION

Our common stock, par value $0.01 per share ("Common Stock"), began trading on the NASDAQ Global Market (formerly the NASDAQ National Market), under the symbol "ASYS," on April 18, 2001. From 1983 to 2001, our Common Stock was traded on the NASDAQ SmallCap Market. On November 5, 2010, the closing price of our Common Stock as reported on the NASDAQ Global Market was $18.27 per share. The following table sets forth the high and low bid price at which the shares of our Common Stock traded for each quarter of fiscal 2010 and 2009, as reported by the NASDAQ Global Market.

	Fiscal 2010		Fiscal 2009	
	High	Low	High	Low
First quarter	$ 11.44	$ 4.90	$ 9.64	$ 2.25
Second quarter	$ 13.09	$ 8.01	4.60	2.62
Third quarter	$ 10.32	$ 8.25	5.97	3.02
Fourth quarter	$ 18.57	$ 8.14	6.11	4.20

COMPARISON OF STOCK PERFORMANCE

The following line graph compares cumulative total shareholder return, assuming reinvestment of dividends, for: the Company's Common Stock, the NASDAQ Composite Index and the NASDAQ Industrial Index. Because the Company did not pay dividends on its Common Stock during the measurement period, the calculation of the cumulative total shareholder return on the Company's Common Stock did not include dividends. The following graph assumes that $100 was invested on October 1, 2005.

HOLDERS

As of November 05, 2010, there were 582 shareholders of record of our Common Stock. Based upon a recent survey of brokers, we estimate there were approximately an additional 6,158 beneficial shareholders who held shares in brokerage or other investment accounts as of that date.

DIVIDENDS

We have never paid dividends on our Common Stock. Our present policy is to apply cash to investment in product development, acquisition or expansion; consequently, we do not expect to pay dividends on Common Stock in the foreseeable future.

SECURITIES AUTHORIZED FOR ISSUANCE UNDER EQUITY COMPENSATION PLANS

The following table sets forth certain information, as of September 30, 2010, concerning outstanding options and rights to purchase Common Stock granted to participants in all of the Company's equity compensation plans and the number of shares of Common Stock remaining available for issuance under such equity compensation plans.

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders (1)	636,283	7.59	973,337
Equity compensation plans not approved by security holders	-		-
Total	636,283		973,337

(1) Represents the 1998 Employee Stock Option Plan, the 2007 Employee Stock Incentive Plan and the Non-Employee Director Stock Option Plan and any respective amendments thereto.

COMPANY PURCHASES OF EQUITY SECURITIES

The Company did not repurchase any of its shares during Fiscal 2010. As of September 30, 2010, $3.6 million was authorized and available for the repurchase of shares by the Company.

ITEM 6. SELECTED FINANCIAL DATA

This selected financial data should be read in conjunction with Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," and our consolidated financial statements (including the related notes thereto) contained elsewhere in this report.

	Years Ended September 30,				
	2010	2009	2008 (1)	2007	2006
Operating Data:					
Net revenue	$ 120,019	$ 52,973	$ 80,296	$ 45,984	$ 40,445
Gross profit	$ 42,712	$ 15,019	$ 22,961	$ 12,810	$ 10,575
Gross profit %	35.6%	28.4%	28.6%	27.9%	26.1%
Operating income (loss)	$ 15,909	$ (1,938)	$ 3,802	$ 1,741	$ 1,635
Net income (loss)	$ 9,563	$ (1,589)	$ 2,857	$ 2,417	$ 1,318
Dividends on convertible preferred stock	$ -	$ -	$ -	$ -	$ (81)
Net income (loss) attributable to common	$ 9,563	$ (1,589)	$ 2,857	$ 2,417	$ 1,237
Earnings (loss) per share:					
Basic earnings (loss) per share	$ 1.06	$ (0.18)	$ 0.33	$ 0.45	$ 0.40
Diluted earnings (loss) per share	$ 1.04	$ (0.18)	$ 0.32	$ 0.44	$ 0.38
Order backlog(2)	$ 94,427	$ 32,357	$ 46,719	$ 22,866	$ 13,600
Balance Sheet Data:					
Cash and cash equivalents	$ 56,764	$ 42,298	$ 37,501	$ 18,370	$ 6,433
Working capital	$ 65,613	$ 55,868	$ 58,275	$ 30,492	$ 11,883
Current ratio	2.3:1	4.1:1	3.2:1	3.6:1	2.6:1
Total assets	$ 136,101	$ 92,526	$ 102,355	$ 50,666	$ 23,563
Total current liabilities	$ 50,816	$ 18,077	$ 26,159	$ 11,718	$ 7,337
Long-term obligations	$ 1,042	$ 644	$ 1,663	$ 744	$ 617
Convertible preferred stock	$ -	$ -	$ -	$ -	$ -
Total stockholders' equity	$ 84,243	$ 73,805	$ 74,533	$ 38,204	$ 15,609

(1) Effective October 1, 2007, the Company acquired 100% of the equity of R2D Automation.

(2) The backlog as of September 30, 2009, 2008, 2007 and 2006 includes $1.2 million, $1.3 million, $0.9 million and $0.9 million, respectively, of deferred revenue on which we realized no gross margin.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion of our financial condition and results of operations should be read in conjunction with our Consolidated Financial Statements and the related notes included in Item 8, "Financial Statements and Supplementary Data" in this Annual Report on Form 10-K. This discussion contains forward-looking statements, which involve risk and uncertainties. Our actual results could differ materially from those anticipated in the forward-looking statements as a result of certain factors including, but not limited to, those discussed in "Risk Factors" and elsewhere in this Annual Report on Form 10-K.

Introduction

Management's Discussion and Analysis ("MD&A") is intended to facilitate an understanding of our business and results of operations. MD&A consists of the following sections:

- Overview: a summary of our business.
- Results of Operations: a discussion of operating results.
- Liquidity and Capital Resources: an analysis of cash flows, sources and uses of cash and financial position.
- Contractual Obligations and Commercial Commitments
- Critical Accounting Policies: a discussion of critical accounting policies that require the exercise of judgments and estimates.
- Impact of Recently Issued Accounting Pronouncements: a discussion of how we are affected by recent pronouncements.

Overview

We are a leading supplier of thermal processing systems, including related automation, parts and services, to the solar/photovoltaic, semiconductor, silicon wafer and MEMS industries and also offer PECVD (plasma-enhanced chemical vapor deposition) and PSG (phosphosilicate glass) equipment. We also manufacture polishing templates, steel carriers and double-sided polishing and lapping machines to fabricators of LED's, optics, quartz, ceramics and metal parts, and for manufacturers of medical equipment components. Due to the growth of our solar/photovoltaic business, the polishing supplies business is no longer a large enough portion of our total business to consider it a separate reportable segment.

Our customers are primarily manufacturers of solar cells and integrated circuits. The solar cell and semiconductor industries are cyclical and historically have experienced significant fluctuations. Our revenue is impacted by these broad industry trends.

In October 2007, we acquired 100% of the equity of R2D Automation (R2D), a solar cell and semiconductor automation equipment manufacturing company. The purpose of the acquisition was to expand our automation products which are used in solar diffusion and semiconductor manufacturing processes. The acquisition of the technology and business of R2D enhances our growth strategy by allowing us to increase revenue by offering to the solar industry an integrated system under the Tempress® brand.

In the third quarter of fiscal 2008, we reorganized the Bruce Technologies® operations to better position the company for profitability in light of lower plant utilization resulting from a slowdown in the semiconductor industry. As a result of this reorganization, we reduced the number of personnel and recorded a charge of $0.4 million in the third quarter of fiscal 2008.

In the second quarter of fiscal 2009, the Bruce Technologies® operations were further restructured to focus on the parts supply business. The restructuring included a reduction in the number of employees and a reduction in the amount of space required to operate the business. The restructuring resulted in a charge of $0.6 million. Also, due to the downturn in the semiconductor industry and deterioration in forecasted revenue and earnings at Bruce Technologies®, an impairment charge of $1.1 million was recorded in the second quarter of fiscal 2009.

Results of Operations

The following table sets forth certain operational data as a percentage of net revenue for the periods indicated:

	Years Ended September 30,		
	2010	2009	2008
Net revenue	100.0%	100.0%	100.0%
Cost of sales	64.4%	71.6%	71.4%
Gross margin	35.6%	28.4%	28.6%
Selling, general and administrative	20.0%	27.9%	22.1%
Impairment and restructuring charges	0.5%	3.2%	0.4%
Research and development	1.8%	1.0%	1.4%
Operating income (loss)	13.3%	(3.7%)	4.7%
Interest and other income (expense), net	(0.2%)	(0.1%)	1.0%
Income before income (loss) taxes	13.1%	(3.8%)	5.7%
Income tax provision (benefit)	5.1%	(0.8%)	2.1%
Net income (loss)	8.0%	(3.0%)	3.6%

Fiscal 2010 compared to Fiscal 2009

Net Revenue

Net revenue consists of revenue recognized upon shipment or installation of products using proven technology and upon acceptance of products using new technology. In addition, spare parts sales are recognized upon shipment. Service revenue is recognized upon completion of the service activity or ratably over the term of the service contract. The majority of our revenue is generated from large furnace systems sales which, depending on the timing of shipment and installation, can have a significant impact on our revenue, gross margins and earnings in any given period. See Critical Accounting Policies – Revenue Recognition.

Net revenue for the years ended September 30, 2010 and 2009 was $120.0 million and $53.0 million, respectively; an increase of $67.0 million or 127%. Revenue increased primarily due to significantly higher demand in the solar industry, partially offset by an increase in the amount of revenue deferred. Net revenue from the solar market was $99.0 million and $34.8 million in fiscal 2010 and 2009, respectively; a 184% increase. Net revenue from all other markets served was $21.0 million in fiscal 2010 compared to $18.2 million in fiscal 2009, an increase of 15%, due primarily to increased demand from the semiconductor market.

Backlog

Our backlog as of September 30, 2010 and 2009 was $94.4 million and $32.4 million, respectively, a 191% increase. Our backlog as of September 30, 2010 included approximately $85.3 million of orders from our solar industry customers compared to $27.9 million of orders from solar industry customers as of September 30, 2009. The orders included in our backlog are generally credit approved customer purchase orders expected to ship within the next twelve months. Because our orders are typically subject to cancellation or delay by the customer, our backlog at any particular point in time is not necessarily representative of actual sales for succeeding periods, nor is backlog any assurance that we will realize revenue or profit from completing these orders. Our backlog also includes revenue deferred pursuant to our revenue recognition policy, derived from orders that have already been shipped but which have not met the criteria for revenue recognition. At the end of fiscal 2010, three customers, individually accounted for 17%, 15% and 14% of our total backlog, respectively.

Gross Profit

Gross profit is the difference between net revenue and cost of goods sold. Cost of goods sold consists of purchased material, labor and overhead to manufacture equipment or spare parts and the cost of service and support to customers for warranty, installation and paid service calls. Gross margin is gross profit as a percentage of net revenue.

The timing of revenue recognition can have a particularly significant effect on gross margin when the equipment revenue of an order is recognized in one period and the remainder of the revenue attributed to holdbacks is recognized in a later period. The portion of revenue attributed to the holdbacks generally comprises 10-20% of an order and has a significantly higher gross margin percentage.

Gross profit for the years ended September 30, 2010 and 2009 was $42.7 million and $15.0 million respectively; an increase of $27.7 million or 184%. Gross margin for fiscal 2010 and 2009 was 36% and 28% respectively. Increased gross profit and gross margins were driven by higher volumes which resulted in significantly more efficient capacity utilization, offset by higher deferred profit. In fiscal 2010, we had a net profit deferral of $6.8 million compared to a net recognition of $0.6 million of previously deferred profit in fiscal 2009.

Selling, General and Administrative Expenses

Selling, general and administrative expenses consist of the cost of employees, consultants and contractors, as well as facility costs, sales commissions, legal and accounting fees and promotional marketing expenses.

Total selling, general and administrative (SG&A) expenses for the year ended September 30, 2010 were $24.1 million or 20% of net revenue. For the year ended September 30, 2009, SG&A expenses were $14.8 million or 28% of net revenue. SG&A expenses include $1.0 million and $0.7 million of stock-based compensation expense for fiscal 2010 and 2009, respectively. The increase in SG&A expenses was primarily due to increased commissions related to higher revenues, higher compensation expense and increased shipping costs related to higher shipping volumes.

Impairment and Restructuring Charges

Impairment charges for the year ended September 30, 2010 were $0.6 million. Impairment and restructuring charges for the year ended September 30, 2009 were $1.7 million.

In April 2007, the Company entered into a license agreement with one of the Company’s technology partners to market, sell, install, service and manufacture machinery and equipment for the manufacturing of photovoltaic cells that employs PECVD Technology (Licensed Product) developed by the technology partner. Under the terms of this agreement the Company paid $1.0 million to the technology partner. The license agreement expires in January 2019. These payments are being amortized over the life of the agreement. Recently, several new competitors have entered the market and management has determined that the market opportunity for the licensed product has decreased. This recent development and the extended amount of time to develop the licensed product caused management to review the licensed product for impairment and recoverability.

It was determined that the carrying value of the license subject to amortization was not fully recoverable; therefore, an impairment charge of $0.6 million was recorded for the excess of carrying value over the fair value of the license. The fair value of the license was determined through estimates of the present value of future cash flows based upon the anticipated future use of the license.

The Bruce operations were restructured in the second quarter of fiscal 2009 to focus primarily on a parts supply business versus furnace systems sales. The restructuring resulted in a charge of $620,000 in the second quarter of fiscal 2009. We conducted an assessment of the ability to recover the carrying amount of long-lived assets of the Bruce operations. It was determined that the carrying value of the net assets was not fully recoverable; therefore, an impairment charge of $373,000 was recorded in the second quarter of fiscal 2009 for the excess of carrying value over the fair value of the customer list and non-compete agreement. The carrying values of goodwill ($89,000) and the Bruce trademark ($592,000) were also recorded as an impairment charge in the second quarter of fiscal 2009.

Research and Development

Research and development expenses consist of the cost of employees, consultants and contractors who design, engineer and develop new products and processes; materials and supplies used in those activities; and product prototyping.

	Years Ended September 30,		
	2010	2009	2008
	(dollars in thousands)		
Research and development	$ 2,986	$ 1,169	$ 1,114
Grants earned	(868)	(660)	(20)
Net research and development	$ 2,118	$ 509	$ 1,094

Research and development expenses increased primarily due to increases in research in the technology of solar (photovoltaic) cell manufacturing to increase cell efficiency. We receive reimbursements through governmental research and development grants which are netted against these expenses. As we have increased our research and development activity, we have also increased our efforts to receive grants to fund this research. As a result, the amount of grants earned in fiscal 2010 increased approximately 30%.

Income Tax Provision

Our effective tax rate was approximately 39% in fiscal 2010 and 21% in 2009. In fiscal 2009, we incurred operating losses which resulted in the recording of a tax benefit equal to 20.9% of our pretax loss. The effective tax rate was negatively impacted by higher permanent book-to-tax differences as a percentage of our pretax loss, the recording of tax on uncertain tax items and recording of additional valuation allowance on certain state deferred tax assets, including state net operating losses.

Our future effective income tax rate depends on various factors, such as the geographic composition of worldwide earnings, tax regulations governing each region, non-tax deductible expenses incurred and the effectiveness of our tax planning strategies.

Fiscal 2009 compared to Fiscal 2008

In fiscal 2009 and 2008, our business was reported under two reportable segments; the solar and semiconductor equipment segment and the polishing supplies segment. Following is our analysis of the results comparing these two fiscal years.

Net Revenue

Net revenue consists of revenue recognized upon shipment or installation of products using proven technology and upon acceptance of products using new technology. In addition, spare parts sales are recognized upon shipment. Service revenue is recognized upon completion of the service activity or ratably over the term of the service contract. The majority of our revenue is generated from large furnace systems sales which, depending on the timing of shipment and installation, can have a significant impact on our revenue, gross margins and earnings in any given period. See Critical Accounting Policies – Revenue Recognition.

Segment	Years Ended September 30,			
	2009	2008	Inc (Dec)	%
	(dollars in thousands)			
Solar and Semiconductor Equipment Segment	$ 47,307	72,029	(24,722)	(34%)
Polishing Supplies Segment	5,666	8,267	(2,601)	(31%)
Total Net Revenue	$ 52,973	$ 80,296	$ (27,323)	(34%)

Net revenue for the year ended September 30, 2009 decreased $27.3 million or 34% compared to the year ended September 30, 2008. Revenue from the Solar and Semiconductor Equipment Segment decreased $24.7 million or 34% due to significantly lower shipments to both the solar and the semiconductor industries, partially offset by a decrease in the amount of revenue deferred. The decrease in shipments was caused by lower sales volumes driven primarily by over-supply in the solar market and the global economic downturn and credit crisis. Within the solar and semiconductor equipment segment, net revenue from the solar market was $34.8 million and $50.1 million in fiscal 2009 and 2008, respectively. Net revenue from the semiconductor market was $12.5 million in fiscal 2009 compared to $21.9 million in fiscal 2008, a decrease of 43% due primarily to the downturn in the semiconductor industry. Revenue in the polishing supplies segment was $5.7 million and $8.3 million for the fiscal years ended September 30, 2009 and 2008, respectively. The decrease of $2.6 million, or 31%, in net revenue from the Polishing Supplies Segment is also due to the economic downturn and the downturn in the semiconductor industry as described above.

The supply-demand imbalance within the solar market, the downturn in the global economy, and the related credit crisis have caused some of our customers to delay or suspend their capacity expansion plans, which has resulted in lower orders. In addition, some of our customers have, and others may, request delays or cancellations in the shipment of their orders. A continuation of the global credit crisis and related downturn in the global economy is likely to negatively impact future revenues from both solar and semiconductor markets and could have a significant adverse affect on our results of operations and financial condition.

Backlog

Our backlog as of September 30, 2009 and 2008 was $32.4 million and $46.7 million, respectively, a 31% decrease. Our backlog as of September 30, 2009 included approximately $27.9 million of orders from our solar industry customers compared to $36.7 million of orders from solar industry customers as of September 30, 2008. The orders included in our backlog are generally credit approved customer purchase orders expected to ship within the next twelve months. Because our orders are typically subject to cancellation or delay by the customer, our backlog at any particular point in time is not necessarily representative of actual sales for succeeding periods, nor is backlog any assurance that we will realize revenue or profit from completing these orders. The recent global credit crisis and related downturn in the global economy has caused many of our customers to delay or suspend their capacity expansion plans. As a result, the delivery times of many of the orders in our backlog may be delayed or even cancelled by our customers. Our backlog also includes revenue deferred pursuant to our revenue recognition policy, derived from orders that have already been shipped but which have not met the criteria for revenue recognition. The backlog as of September 30, 2009 and 2008 includes $1.2 million and $1.3 million, respectively, of open orders or deferred revenue on which we anticipate no gross margin. At the end of fiscal 2009 and 2008, 31% and 38% of our backlog consisted of open sales orders and deferred revenue from one customer, E-Ton Solar Tech, respectively.

Gross Profit

Gross profit is the difference between net revenue and cost of goods sold. Cost of goods sold consists of purchased material, labor and overhead to manufacture equipment or spare parts and the cost of service and support to customers for warranty, installation and paid service calls. Gross margin is gross profit as a percentage of net revenue.

The timing of revenue recognition can have a particularly significant effect on gross margin when the equipment revenue of an order is recognized in one period and the remainder of the revenue attributed to holdbacks is recognized in a later period. The portion of revenue attributed to the holdbacks generally comprises 10-20% of an order and has a significantly higher gross margin percentage.

Segment	Years Ended September 30, 2009	2008	Inc (Dec)	%
	(dollars in thousands)			
Solar and Semiconductor Equipment Segment	$ 13,748	20,500	(6,752)	(33%)
Polishing Supplies Segment	1,271	2,461	(1,190)	(48%)
Total Gross Profit	$ 15,019	$ 22,961	$ (7,942)	(35%)
Gross Margin	28%	29%		

Gross profit for fiscal 2009 decreased $7.9 million, or 35%, to $15.0 million in fiscal 2009 from $23.0 million in fiscal 2008. Gross margin decreased slightly to 28% in fiscal 2009 from 29% in fiscal 2008. We recognized $0.6 million of previously deferred profit in fiscal 2009, net of deferrals, compared to a net deferral of $2.9 million of profit in fiscal 2008. Excluding the impact of the change in deferred profit, gross margin in the solar and semiconductor equipment segment decreased due primarily to lower sales volumes resulting in underutilization of existing plant capacity. Gross profit and gross margin in the polishing supplies segment were lower in fiscal 2009 as compared to fiscal 2008 due to lower sales volumes of polishing machines, carriers and templates.

Selling, General and Administrative Expenses

Selling, general and administrative expenses consist of the cost of employees, consultants and contractors, as well as facility costs, sales commissions, legal and accounting fees and promotional marketing expenses.

Segment	Years Ended September 30, 2009	2008	Inc (Dec)	%
	(dollars in thousands)			
Solar and Semiconductor Equipment Segment	$ 13,523	$ 16,267	$ (2,744)	(17%)
Polishing Supplies Segment	1,243	1,442	(199)	(14%)
Total SG&A	$ 14,766	$ 17,709	$ (2,943)	(17%)
Percent of net revenue	28%	22%		

Total selling, general and administrative (SG&A) expenses decreased $2.9 million or 17% in fiscal 2009 from fiscal 2008. SG&A expenses include $0.7 million and $0.5 million of stock-based compensation expense for fiscal 2009 and 2008, respectively. SG&A expenses for fiscal 2009 and 2008 include $0.2 million and $0.3 million, respectively, of costs related to compliance with the provisions of the Sarbanes-Oxley Act. The decrease in SG&A expenses was primarily due to decreased commissions on sales due to lower revenue generated in geographic regions where third-party sales representatives are utilized; primarily Asia. Additionally, other SG&A costs decreased in fiscal 2009 due to decreased shipping volumes and reduced costs related to reductions in workforce, mainly at our Bruce Technologies operation. Also, a $0.5 million provision was recorded in fiscal 2008 as an allowance for doubtful accounts for which there were no comparable expenses in fiscal 2009.

Impairment and Restructuring Charges

Segment	Years Ended September 30, 2009	2008	Inc (Dec)	%
	(dollars in thousands)			
Solar and Semiconductor Equipment Segment	$ 1,682	$ 356	$ 1,326	372%
Polishing Supplies Segment	-	-	-	0%
Total Impairment and Restructuring Charge	$ 1,682	$ 356	$ 1,326	372%

The Bruce Technologies operations are primarily dependent upon a mature segment of the semiconductor industry which is experiencing a significant downturn. The industry downturn resulted in recent operating losses and deterioration in forecasted revenue and earnings at Bruce Technologies. It is uncertain when, and to what extent, the markets served by Bruce Technologies will recover. Therefore, the Bruce Technologies operations were restructured in the second quarter of fiscal 2009 to focus on the parts supply business. The restructuring included a reduction in the number of employees and a reduction in the amount of space required to operate the business. The restructuring resulted in a charge of $0.6 million in the second quarter of fiscal 2009, which includes a $0.3 million charge for unutilized leased space, a $0.2 million write-off of furnace-related inventory parts that are not expected to be utilized in the future and $0.1 million of severance and outplacement costs. Our Bruce Technologies operations were also reorganized in the third quarter of fiscal 2008, which resulted in a restructuring charge of $0.4 million, consisting mainly of severance and outplacement costs for affected personnel.

Due to the circumstances related to the Bruce Technologies operations discussed above, the Company determined it was necessary to conduct an assessment of the ability to recover the carrying amount of long-lived assets of the Bruce Technologies operations. The amount estimated to be recoverable is based upon the Company's judgments and estimates of undiscounted cash flows during the estimated remaining useful life of the assets. It was determined that the carrying value of the net assets was not fully recoverable; therefore, an impairment charge of $0.4 million was recorded in the second quarter of fiscal 2009 for the excess of carrying value over the fair value of the customer list and non-compete agreement. Future adverse changes could be caused by, among other factors, a downturn in the industries served, a general economic slowdown, reduced demand for our products in the marketplace, poor operating results, the inability to protect intellectual property or changing technologies and product obsolescence.

As a result of the impairment of long-lived assets described above, it was necessary to conduct an interim review of the goodwill and Bruce Technologies trademark for impairment. The fair value of the assets group was determined through estimates of the present value of future cash flows based upon the anticipated future use of the assets. As the carrying value of the Bruce Technologies assets exceeded their estimated fair value, the carrying values of goodwill ($0.1 million) and the Bruce Technologies trademark ($0.6 million) were also recorded as an impairment charge in the second quarter of fiscal 2009.

The total amount of the impairment charge was $1.1 million. Details of the impairment charge are as follows:

	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Goodwill	$ 89	$ -	$ 89
Trademark	592	-	592
Customer List	276	87	189
Non-compete agreement	350	166	184
Impairment Charge			$ 1,054

Research and Development

Research and development expenses consist of the cost of employees, consultants and contractors who design, engineer and develop new products and processes and the materials used in those processes and producing prototypes. Reimbursements of research and development costs in the form of governmental research and development grants are netted against these expenses.

Segment	Years Ended September 30, 2009	2008	Inc (Dec)	%
	(dollars in thousands)			
Semiconductor and Solar Equipment Segment	$ 509	$ 1,094	$ (585)	(53%)
Polishing Supplies Segment	-	-	-	0%
Total Research and Development	$ 509	$ 1,094	$ (585)	(53%)
Percent of net revenue	1%	1%		

Research and development expenses decreased primarily due to increases in the amount of reimbursement of research and development costs. In fiscal 2009 and 2008, we recognized $0.5 million and $0.1 million of reimbursements of our research and development costs from governmental grants. The remainder of the decrease in research and development expenses relate to a specific customer development program in fiscal 2008 that did not repeat in fiscal 2009.

Income Tax Provision

Our effective tax rate was 20.9% in fiscal 2009 and 37.1% in 2008. In fiscal 2009, we incurred operating losses which resulted in the recording of a tax benefit equal to 20.9% of our pretax loss. The effective tax rate was negatively impacted by higher permanent book-to-tax differences as a percentage of our pretax loss and recording of additional valuation allowance on certain state deferred tax assets, including state net operating losses.

Our future effective income tax rate depends on various factors, such as the geographic composition of worldwide earnings, tax regulations governing each region, non-tax deductible expenses incurred and the effectiveness of our tax planning strategies.

Liquidity and Capital Resources

As of September 30, 2010, and 2009, cash and cash equivalents were $56.8 million and $42.3 million, respectively. As of September 30, 2010, and 2009, restricted cash was $6.2 million and $1.5 million, respectively. Restricted cash increased $4.7 million due to receipt of customer deposits requiring bank guarantees collateralized by cash. Our working capital was $65.6 million as of September 30, 2010 and $55.9 million as of September 30, 2009. The increase in cash was primarily provided by cash from operating activities of $15.8 million, discussed below, and $1.3 million received from the exercise of stock options. This was offset by purchases of property, plant and equipment of $2.9 million. Our ratio of current assets to current liabilities decreased to 2.3:1 as of September 30, 2010 from 4.1:1 as of September 30, 2009. The decline in our current ratio was due to the simultaneous increase in our current assets and current liabilities as we ramped up inventory purchases to meet the growing order backlog. Current assets increased $42.5 million while current liabilities increased $32.7 million. The increase in customer orders is expected to result in higher operating levels and a potential reduction in cash due to increases in inventories and receivables and potential capital expenditures. We have never paid dividends on our Common Stock. Our present policy is to apply cash to investments in product development, acquisitions or expansion; consequently, we do not expect to pay dividends on Common Stock in the foreseeable future. We continue to have minimal long-term obligations to service.

The success of our growth strategy is dependent upon the availability of additional capital resources on terms satisfactory to management. Our sources of capital in the past have included the sale of equity securities, which include common and preferred stock sold in private transactions and public offerings, capital leases and long-term debt. There can be no assurance that we can raise such additional capital resources on satisfactory terms. We believe that our principal sources of liquidity discussed above are sufficient to support operations.

	Fiscal Years Ended September 30,		
	2010	2009	2008
	(dollars in thousands)		
Net cash provided by (used in) operating activities	$ 15,800	$ 7,571	$ (2,596)
Net cash used in investing activities	$ (2,929)	$ (1,948)	$ (11,650)
Net cash provided by (used in) financing activities	$ 1,413	$ (590)	$ 33,316

Cash Flows from Operating Activities

Cash provided by our operating activities was $15.8 million and $7.6 million in fiscal 2010 and 2009 respectively, compared to cash used in operating activities of $2.6 million in fiscal 2008. During fiscal 2010 cash was primarily generated by earnings from operations, adjusted for non-cash charges. Additional cash was generated by increases in current liabilities, such as customer deposits received with sales orders, accounts payable, accrued compensation and deferred profit. These increases were offset by an increase in restricted cash due to customers requiring bank guarantees for their deposits; an increase in inventory necessary to fulfill our backlog of orders; an increase in accounts receivable due to the record volumes of shipments; as well as an increase in prepayments to vendors to take advantage of available discounts. During fiscal 2009, cash was generated primarily from collection of accounts receivable and reductions in inventory. This generation of cash was partially offset by decreases in accrued liabilities and customer deposits, accounts payable and deferred profit. During fiscal 2008, cash was primarily used to finance business growth, including increases in accounts receivable and inventory. This use of cash was partially offset each fiscal year by increases in accrued liabilities and customer deposits, deferred profit and accounts payable.

Cash Flows from Investing Activities

Our investing activities for fiscal 2010, 2009 and 2008 used cash of $2.9 million, $1.9 million and $11.7 million, respectively. During fiscal 2010, the company made capital expenditures of $2.9 million, including land in the Netherlands adjacent to our current manufacturing facilities for $1.0 million. We plan to use this land to expand our current facilities due to our rapid growth. We also invested in machinery and equipment and infrastructure due to our capacity expansion, primarily at our Netherlands location. During fiscal 2009, we invested $1.1 million, primarily in manufacturing equipment, research and development equipment and building improvements. In addition, we invested $0.5 million for a license to certain solar etching technology for the removal of PSG or phosphorus silica glass and $0.3 million, the remaining installment for the license of certain solar PECVD technology. During fiscal 2008, the most significant investments were the acquisition of R2D for $7.4 million and a $1.5 million investment for additional improvements to the manufacturing facility in The Netherlands. Another significant investment in fiscal 2008 was $0.4 million paid for a license for solar PECVD technology. Other investments in fiscal 2008 consisted primarily of purchases of manufacturing equipment and research and development equipment and upgrades to information systems.

Cash Flows from Financing Activities

Cash provided by financing activities was $1.4 million in fiscal 2010, which primarily consists of $1.3 million cash received due to employee exercises of stock options. Cash used in financing activities was $0.6 million in fiscal 2009, which primarily consists of $0.5 million to purchase our common stock under the fiscal 2009 repurchase program and $0.1 million in payments on long-term debt. Cash provided by our financing activities for fiscal 2008 was $33.3 million, which primarily consists of the $33.6 million raised in our Common Stock offering, net of expenses. Other financing activities during fiscal 2008 was mainly payments on debt of $0.8 million.

We currently anticipate that our existing cash balances will be sufficient to meet our anticipated cash needs for current operations for at least the next 12 months.

Off-Balance Sheet Arrangements

As of September 30, 2010, we had no off-balance sheet arrangements as defined in Item 303(a)(4) of Regulation S-K promulgated by the Securities and Exchange Commission.

Contractual Obligations and Commercial Commitments

We had the following contractual obligations and commercial commitments as of September 30, 2010:

Contractual obligations	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
		(dollars in thousands)			
Debt obligations	$ 158	$ 126	$ 32	$ -	$ -
Operating lease obligations:					
Buildings	2,864	938	785	522	619
Office equipment	70	41	29	-	-
Vehicles	264	123	129	12	-
Total operating lease obligations	3,198	1,102	943	534	619
Purchase obligations	40,103	40,103	-	-	-
Total	$ 43,459	$ 41,331	$ 975	$ 534	$ 619
Other commerical obligations:					
Bank guarantees	$ 6,192	$ 6,192	$ -	-	-

Critical Accounting Policies

“Management’s Discussion and Analysis of Financial Condition and Results of Operations” discusses our consolidated financial statements that have been prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amount of assets and liabilities at the date of the consolidated financial statements, the disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting period.

On an on-going basis, we evaluate our estimates and judgments, including those related to revenue recognition, inventory valuation, accounts receivable collectability, warranty and impairment of long-lived assets. We base our estimates and judgments on historical experience and on various other factors that we believe to be reasonable under the circumstances. The results of these estimates and judgments form the basis for making conclusions about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

A critical accounting policy is one that is both important to the presentation of our financial position and results of operations, and requires management’s most difficult, subjective or complex judgments, often as a result of the need to make estimates about the effect of matters that are inherently uncertain. These uncertainties are discussed in “ITEM 1A. RISK FACTORS.” We believe the following critical accounting policies affect the more significant judgments and estimates used in the preparation of our consolidated financial statements.

Revenue Recognition. We review product and service sales contracts with multiple deliverables to determine if separate units of accounting are present in the arrangements. Where separate units of accounting exist, revenue is allocated to delivered items equal to the total sales price less the greater of (1) the relative fair value of the undelivered items, and (2) all contingent portions of the sales arrangement.

We recognize revenue when persuasive evidence of an arrangement exists; the product has been delivered and title has transferred, or services have been rendered; the seller's price to the buyer is fixed or determinable and collectability is reasonably assured. For us, this policy generally results in revenue recognition at the following points:

(1) For our equipment business, transactions where legal title passes to the customer upon shipment, we recognize revenue upon shipment for those products where the customer's defined specifications have been met with at least two similarly configured systems and processes for a comparably situated customer. However, a portion of the revenue associated with certain installation-related tasks, equal to the greater of the relative fair value of those tasks or the portion of the contract price contingent upon their completion, generally 10%-20% of the system's selling price (the "holdback"), and directly related costs, if any, are deferred and recognized into income when the tasks are completed. Since we defer only those costs directly related to installation or other unit of accounting not yet delivered and the portion of the contract price is often considerably greater than the fair market value of those items, our policy at times will result in deferral of profit that is disproportionate in relation to the deferred revenue. When this is the case, the gross margin recognized in one period will be lower and the gross margin reported in a subsequent period will improve.

(2) For products where the customer's defined specifications have not been met with at least two similarly configured systems and processes, the revenue and directly related costs are deferred at the time of shipment and later recognized at the time of customer acceptance or when this criterion has been met. We have, on occasion, experienced longer than expected delays in receiving cash from certain customers pending final installation or system acceptance. If some of our customers refuse to pay the final payment, or otherwise delay final acceptance or installation, the deferred revenue would not be recognized, adversely affecting our future operating results.

(3) Sales of polishing supplies generally do not include process guarantees, acceptance criteria or holdbacks; therefore, the related revenue is generally recorded upon transfer of title which is generally at time of shipment.

(4) Sales of spare parts and consumables are recognized upon shipment, as there are no post shipment obligations other than standard warranties.

(5) Service revenue is recognized upon performance of the services requested by the customer. Revenue related to service contracts is recognized ratably over the period of the contract or in accordance with the terms of the contract, which generally coincides with the performance of the services requested by the customer.

Income taxes. The calculation of tax liabilities involves significant judgment in estimating the impact of uncertainties in the application of complex tax laws. Resolution of these uncertainties in a manner inconsistent with our expectations could have a material impact on our operations and financial condition.

We are required to apply a more likely than not threshold to the recognition and derecognition of uncertain tax positions. We are required to recognize the amount of tax benefit that has a greater than 50 percent likelihood of being ultimately realized upon settlement. It further requires that a change in judgment related to the expected ultimate resolution of uncertain tax positions be recognized in earnings in the quarter of such change. Prior to adoption, our policy was to establish reserves that reflected the probable outcome of known tax contingencies.

Inventory Valuation. We value our inventory at the lower of cost or net realizable value. Costs for approximately 90% of inventory are determined on an average cost basis with the remainder determined on a first-in, first-out (FIFO) basis. We regularly review inventory quantities and record a write-down for excess and obsolete inventory. The write-down is primarily based on historical inventory usage adjusted for expected changes in product demand and production requirements. However, our industry is characterized by customers in highly cyclical industries, rapid technological changes, frequent new product developments and rapid product obsolescence. Changes in demand for our products and product mix could result in further write-downs.

Allowance for Doubtful Accounts. We maintain an allowance for doubtful accounts for estimated losses resulting from the inability or unwillingness of our customers to make required payments. This allowance is based on historical experience, credit evaluations, specific customer collection history and any customer-specific issues we have identified. Since a significant portion of our revenue is derived from the sale of high-value systems, our accounts receivable are often concentrated in a relatively few number of customers. A significant change in the liquidity or financial position of any one of these customers could have a material adverse impact on the collectability of our accounts receivable and our future operating results.

Warranty. We provide a limited warranty, generally for 12 to 24 months, to our customers. A provision for the estimated cost of providing warranty coverage is recorded upon acceptance of all systems. On occasion, we have been required and may be required in the future to provide additional warranty coverage to ensure that the systems are ultimately accepted or to maintain customer goodwill. While our warranty costs have historically been within our expectations and we believe that the amounts accrued for warranty expenditures are sufficient for all systems sold through September 30, 2010, we cannot guarantee that we will continue to experience a similar level of predictability with regard to warranty costs. In addition, technological changes or previously unknown defects in raw materials or components may result in more extensive and frequent warranty service than anticipated, which could result in an increase in our warranty expense.

Impairment of Long-lived Assets. We periodically evaluate whether events and circumstances have occurred that indicate the estimated useful lives of long-lived assets or intangible assets may warrant revision or that the remaining balance may not be recoverable. Goodwill and indefinite-lived intangibles are also tested for impairment at least annually. When factors indicate that an asset should be evaluated for possible impairment, we use an estimate of the related undiscounted net cash flows generated by the asset over the remaining estimated life of the asset in measuring whether the asset is recoverable. We make judgments and estimates used in establishing the carrying value of long-lived or intangible assets. Those judgments and estimates could be modified if adverse changes occurred in the future resulting in an inability to recover the carrying value of these assets. Below is a more detailed explanation of the procedures we perform.

We perform a two-step impairment test of goodwill and indefinite-lived intangible assets. In the first step, we estimate the fair value of the reporting unit and compare it to the carrying value of the reporting unit. When the carrying value exceeds the fair value of the reporting unit, the second step is performed to measure the amount of the impairment loss, if any. In the second step, the amount of the impairment loss is the excess of the carrying amount of the goodwill and other intangibles not subject to amortization over their implied fair value.

The methods used to estimate fair value of the reporting unit for the purpose of determining the implied fair value of goodwill include the market approach and discounted cash flows, as follows:

i. One valuation methodology used is to determine the multiples of market value of invested capital ("MVIC") of similar public companies to their revenue for the last twelve months ("LTM") and next twelve months ("NTM"), and apply those multiples to the revenue for the comparable periods of the reporting unit being tested for impairment. One benefit of this approach is it is the closest to quoted market prices that are readily available. However, we generally give less weight to this method, because the market value of the minority interest of public companies may not be that relevant to the fair value of our wholly-owned reporting units, which are not public companies. Also, MVIC to revenue for the LTM uses a historical value in the denominator, while the market values tend to be forward looking; and MVIC of revenue for the NTM involves the use of projections for both the comparable companies and the reporting unit.

ii. Another market approach that we sometimes use is based upon prices paid in merger and acquisition transactions for other companies in the same industry, again applying the MVIC to revenue of those companies to the historical and projected revenue of the reporting unit. When we use both market prices determined as described in (i), above, and prices paid in merger and acquisition transactions, we weight them to determine an indicated value under the market approach.

iii. As stated, we also use discounted cash flows as an indication of what a third-party would pay for the reporting unit in an arms-length transaction. This method requires projections of EBITDA (earnings before interest, taxes, depreciation and amortization) and applying an appropriate discount rate based on the weighted average cost of capital for the reporting unit.

We generally give the greatest weight, often 75% or more, to the discounted cash flow method, due to difficulty in identifying a sufficient number of companies that are truly comparable to a given reporting unit. This is because two of our three reporting units are relatively small businesses serving niche markets.

The material estimates and assumptions used in the discounted cash flows method of determining fair value include (i) the appropriate discount rate, given the risk-free rate of return and various risk premiums, (ii) projected revenues, (iii) projected material cost as a percentage of revenue, and (iv) the rate of increase in payroll and other expense. Quantitatively, the discount rate is the assumption that has the most pervasive effect on the discounted cash flows. We determine the discount rate used based on input from a valuation firm, which applies various approaches taking into account the particular circumstances of the reporting unit in arriving at a recommendation. For annual valuations, we test the sensitivity of the assumptions used in our discounted cash flow projection with the aid of a valuation firm, which utilizes a Monte Carlo simulation model, wherein various probabilities are assigned to the key assumptions.

In Fiscal 2009, we performed a mid-year test of the impairment of the goodwill and other intangibles due to changing circumstances regarding the Bruce Technologies reporting unit. This test required us to use judgments and estimates that could be materially different than actual results. Bruce Technologies continued to incur losses after a restructuring and cost reductions put into place during the prior fiscal year and expectations that semiconductor customers served by this reporting unit would not in the future achieve the kinds of growth rates they had in the past due to increased maturity of that industry. We used the same discount rate as used in the prior annual impairment test of this reporting unit, but the other assumptions became more conservative due to the changing circumstances. It was primarily the lowered projections of future revenue that resulted in a lower estimate of fair value and the impairment loss. The payroll and certain expense assumptions, however, were lowered to take into account a second restructuring of the reporting unit, which involved a significant reduction in the number of employees. The material cost assumption was also lowered to take into account a change in product mix.

Stock-Based Compensation. The Company measures compensation costs relating to share-based payment transactions based upon the grant-date fair value of the award. Those costs are recognized as expense over the requisite service period, which is generally the vesting period. The benefits of tax deductions in excess of recognized compensation cost are reported as cash flow from financing activities rather than as cash flow from operating activities.

Impact of Recently Issued Accounting Pronouncements

For discussion of the impact of recently issued accounting pronouncements, see “Item 8: Financial Statements and Supplementary Data” under Footnote 1 “Summary of Significant Accounting Policies” under “Impact of Recently Issued Accounting Pronouncements”.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Foreign Currency Risk

We are exposed to foreign currency exchange rates to the extent sales contracts, purchase contracts, assets or liabilities of our European operations are denominated in currencies other than their functional currency, Our operations in Europe, a component of the solar and semiconductor equipment business, conduct business primarily in their functional currency, the Euro, and the U.S. dollar. Nearly all of the transactions, assets and liabilities of all other operating units are denominated in the U.S. dollar, their functional currency. In fiscal 2010 and fiscal 2009, the U.S. dollar, on average, strengthened relative to the Euro by 11% and 10%, respectively. It is highly uncertain how currency exchange rates will fluctuate in the future. Actual changes in foreign exchange rates could adversely affect our operating results or financial condition.

As of September 30, 2010, we did not hold any stand-alone or separate derivative instruments. We incurred net foreign currency transaction losses of $0.4 million and less than $0.1 million in fiscal 2010 and fiscal 2009, respectively. As of September 30, 2010, our foreign subsidiaries had $1.6 million of assets (cash and receivables) denominated in U.S. dollars, rather than Euros, which is their functional currency. A 10% change in the value of the functional currency relative to the non-functional currency would result in a gain or loss of $0.2 million. As of the end of fiscal 2010, we had $2.3 million of accounts payable, consisting primarily of amounts owed by foreign subsidiaries to our U.S. companies, denominated in U.S. dollars. Even though the intercompany accounts are eliminated in consolidation, a 10% change in the value of the Euro relative to the U.S. dollar would result in a gain or loss of $0.2 million. Our net investment in and long-term advances to our foreign operations totaled $58.3 million as of September 30, 2010. A 10% change in the value of the Euro relative to the U.S. dollar would cause an approximately $5.8 million foreign currency translation adjustment, a type of other comprehensive income (loss), which would be a direct adjustment to our stockholders' equity. In fiscal 2010, we recognized net other comprehensive income of $1.6 million from translation adjustments.

During fiscal 2010 and 2009, U.S. dollar denominated sales of our European operations were $1.7 million and $4.0 million, respectively. As of September 30, 2010, sales commitments denominated in a currency other than the functional currency of our transacting operation were than $1.3 million.

All operations become less competitive relative to foreign suppliers when their functional currency strengthens relative to that of the foreign supplier. Our European operations are particularly affected when selling to customers in Asia when such customers require a purchase price in U.S. dollars. If the value of the U.S. dollar has strengthened or weakened relative to the Euro our gross margin will be reduced or increased, respectively, relative to prior transactions unless we and our customers agree to a commensurate increase or decrease, respectively, in our selling price.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The following documents are filed as part of this Annual Report on Form 10-K:

Financial Statements

Report of Independent Registered Public Accounting Firm	43
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Consolidated Statements of Operations: Years ended September 30, 2010, 2009 and 2008	46
Consolidated Statements of Stockholders' Equity and Comprehensive Income (Loss): Years ended September 30, 2010, 2009 and 2008	47
Consolidated Statements of Cash Flows: Years ended September 30, 2010, 2009 and 2008	48
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Report of Independent Registered Public Accounting Firm

To the Stockholders of

AMTECH SYSTEMS, INC.

We have audited the accompanying consolidated balance sheets of Amtech Systems, Inc. and subsidiaries (the "Company") as of September 30, 2010 and 2009, and the related consolidated statements of operations, stockholders' equity and comprehensive income (loss), and cash flows for each of the years in the three-year period ended September 30, 2010. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of September 30, 2010 and 2009, and the results of their operations and their cash flows for each of the years in the three-year period ended September 30, 2010 in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Company's internal control over financial reporting as of September 30, 2010, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and our report dated November 15, 2010 expressed an unqualified opinion.

/s/ Mayer Hoffman McCann P.C.

Phoenix, Arizona
November 15, 2010

PART I FINANCIAL INFORMATION

ITEM 1. Consolidated Financial Statements

AMTECH SYSTEMS, INC. AND SUBSIDIARIES
Consolidated Balance Sheets
(in thousands except share data)

Assets	September 30, 2010	September 30, 2009
Current Assets		
Cash and cash equivalents	$ 56,764	$ 42,298
Restricted cash	6,192	1,496
Accounts receivable		
Trade (less allowance for doubtful accounts of $181 and $465 at September 30, 2010 and September 30, 2009, respectively)	9,252	8,409
Unbilled and other	15,231	5,156
Inventories	24,317	13,455
Deferred income taxes	2,130	2,290
Other	2,543	841
Total current assets	116,429	73,945
Property, Plant and Equipment - Net	9,577	8,477
Deferred Income Taxes - Long Term	2,660	1,140
Intangible Assets - Net	2,571	3,828
Goodwill	4,839	5,136
Other Assets	25	-
Total Assets	$ 136,101	$ 92,526

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Liabilities and Stockholders' Equity	September 30, 2010	September 30, 2009
Current Liabilities		
Accounts payable	$ 12,446	$ 4,181
Current maturities of long-term debt	126	121
Accrued compensation and related taxes	8,305	2,877
Accrued warranty expense	1,843	1,429
Deferred profit	11,439	4,727
Customer deposits	8,858	2,861
Other accrued liabilities	1,479	1,721
Income taxes payable	6,320	160
Total current liabilities	50,816	18,077
Income Taxes Payable Long-term	1,010	480
Other Long-Term Obligations	32	164
Total liabilities	51,858	18,721
Commitments and Contingencies		
Stockholders' Equity		
Preferred stock; 100,000,000 shares authorized; none issued	-	-
Common stock; $0.01 par value; 100,000,000 shares authorized; shares issued and outstanding: 9,209,213 and 8,961,494 at September 30, 2010 and September 30, 2009, respectively	92	90
Additional paid-in capital	72,919	70,403
Accumulated other comprehensive income	(982)	661
Retained earnings	12,214	2,651
Total stockholders' equity	84,243	73,805
Total Liabilities and Stockholders' Equity	$ 136,101	$ 92,526

The accompanying notes are an integral part of these consolidated financial statements.

AMTECH SYSTEMS, INC. AND SUBSIDIARIES
Consolidated Statements of Operations
(in thousands, except per share data)

	Years Ended September 30,		
	2010	2009	2008
Revenues, net of returns and allowances	$ 120,019	$ 52,973	$ 80,296
Cost of sales	77,307	37,954	57,335
Gross profit	42,712	15,019	22,961
Selling, general and administrative	24,075	14,766	17,709
Impairment and restructuring charges	610	1,682	356
Research and development	2,118	509	1,094
Operating income (loss)	15,909	(1,938)	3,802
Interest and other income (expense), net	(196)	(71)	745
Income (loss) before income taxes	15,713	(2,009)	4,547
Income tax provision (benefit)	6,150	(420)	1,690
Net income (loss)	$ 9,563	$ (1,589)	$ 2,857
Income (Loss) Per Share:			
Basic income (loss) per share	$ 1.06	$ (0.18)	$ 0.33
Weighted average shares outstanding	9,022	9,019	8,719
Diluted income (loss) per share	$ 1.04	$ (0.18)	$ 0.32
Weighted average shares outstanding	9,237	9,019	8,846

The accompanying notes are an integral part of these consolidated financial statements.

AMTECH SYSTEMS, INC. AND SUBSIDIARIES
Consolidated Statements Of Stockholders' Equity
And Comprehensive Income (Loss)

	Common Stock Number of Shares	Amount	Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings (Accumulated Deficit)	Total Stockholders' Equity
Balance at						
September 30, 2007	6,518	$ 65	$ 35,610	$ 813	$ 1,716	$ 38,204
Net income					2,857	2,857
Effect of the adoption of FIN 48					(333)	(333)
Translation adjustment				(746)		(746)
Comprehensive income						1,778
Issuance of common stock	2,500	25	33,549			33,574
Tax benefit of stock options			84			84
Stock compensation expense			473			473
Stock options exercised	78	1	419			420
Balance at						
September 30, 2008	9,096	$ 91	$ 70,135	$ 67	$ 4,240	$ 74,533
Net loss					(1,589)	(1,589)
Translation adjustment				594		594
Comprehensive loss						(995)
Share repurchase	(144)	(1)	(446)			(447)
Stock compensation expense			711			711
Restricted shares released	8	-				-
Stock options exercised	2	-	3			3
Balance at						
September 30, 2009	8,962	$ 90	$ 70,403	$ 661	$ 2,651	$ 73,805
Net income					9,563	9,563
Translation adjustment				(1,643)		(1,643)
Comprehensive income						7,920
Tax benefit of stock options			202			202
Stock compensation expense			987			987
Restricted shares released	34	-				-
Stock options exercised	214	2	1,327			1,329
Balance at						
September 30, 2010	9,210	$ 92	$ 72,919	$ (982)	$ 12,214	$ 84,243

The accompanying notes are an integral part of these consolidated financial statements.

AMTECH SYSTEMS, INC. AND SUBSIDIARIES
Consolidated Statements Of Cash Flows
(in thousands)

	Year Ended September 30,		
	2010	2009	2008
Operating Activities			
Net income (loss)	$ 9,563	$ (1,589)	$ 2,857
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:			
Depreciation and amortization	1,763	1,559	1,339
Write-down of inventory	582	327	130
Provision for (reversal of) allowance for doubtful accounts	(56)	(57)	468
Deferred income taxes	(1,402)	25	(2,328)
Impairment of long-lived assets	610	1,062	-
Non-cash share based compensation expense	987	711	473
Changes in operating assets and liabilities:			
Change in restricted cash	(4,763)	1,421	(546)
Accounts receivable	(11,621)	9,118	(8,432)
Inventories	(12,128)	2,145	(7,288)
Accrued income taxes	6,549	(760)	421
Prepaid expenses and other assets	(1,752)	641	125
Accounts payable	8,436	(2,271)	1,264
Accrued liabilities and customer deposits	12,057	(4,128)	5,976
Deferred profit	6,975	(633)	2,945
Net cash provided by (used in) operating activities	15,800	7,571	(2,596)
Investing Activities			
Purchases of property, plant and equipment	(2,929)	(1,148)	(3,136)
Increase in restricted cash - non-current	-	645	(678)
Investment in R2D	-	(645)	(7,436)
Investment in note receivable	(1,000)	-	-
Proceeds from note receivable	1,000	-	-
Payment for licensing agreement	-	(800)	(400)
Net cash used in investing activities	(2,929)	(1,948)	(11,650)
Financing Activities			
Proceeds from issuance of common stock, net	1,328	3	33,994
Purchase of common stock under repurchase program	-	(448)	-
Payments on long-term obligations	(117)	(145)	(762)
Excess tax benefit of stock options	202	-	84
Net cash provided by (used in) financing activities	1,413	(590)	33,316
Effect of Exchange Rate Changes on Cash	182	(236)	61
Net Increase in Cash and Cash Equivalents	14,466	4,797	19,131
Cash and Cash Equivalents, Beginning of Year	42,298	37,501	18,370
Cash and Cash Equivalents, End of Year	$ 56,764	$ 42,298	$ 37,501
Supplemental Cash Flow Information:			
Interest paid	$ 80	$ 76	$ 244
Income tax refunds	665	1,450	96
Income tax payments	1,508	1,738	3,463
Supplemental Non-cash Financing Activities:			

Transfer inventory to capital equipment	-	116	-

The accompanying notes are an integral part of these consolidated financial statements.

Notes to Consolidated Financial Statements
For the Years Ended September 30, 2010, 2009 and 2008

1. Summary of Significant Accounting Policies

Nature of Operations and Basis of Presentation – Amtech Systems, Inc. (the "Company") designs, assembles, sells and installs capital equipment and related consumables used in the manufacture of wafers, primarily for the solar and semiconductor industries. The Company sells these products to manufacturers of solar cells, silicon wafers, and semiconductors worldwide, particularly in the Asia, United States and northern Europe. In addition, the Company provided semiconductor manufacturing support services through fiscal 2009.

The Company serves niche markets in industries that are experiencing rapid technological advances, and which historically have been very cyclical. Therefore, future profitability and growth depend on the Company's ability to develop or acquire and market profitable new products, and on its ability to adapt to cyclical trends.

Principles of Consolidation –The consolidated financial statements include the accounts of Amtech and its wholly owned subsidiaries. All material intercompany accounts and transactions have been eliminated in consolidation.

Use of Estimates - The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

Revenue Recognition –Revenue is recognized upon shipment of the Company's proven technology equal to the sales price less the greater of (i) the fair value of undelivered services or (ii) the contingent portion of the sales price, which is generally 10-20% of the total contract price. The entire cost of the equipment relating to proven technology is recorded upon shipment. The remaining contractual revenue, deferred costs, and installation costs are recorded upon successful installation of the product.

For purposes of revenue recognition, proven technology means that the Company has a history of at least two successful installations. New technology systems are those systems with respect to which the Company cannot demonstrate that it can meet the provisions of customer acceptance at the time of shipment.

Revenue on new technology is deferred until installation and acceptance at the customer's premises is completed, as these sales do not meet the provisions of customer acceptance at the time of shipment. Cost of the equipment relating to new technology is recorded against deferred profit and then recorded in cost of sales upon customer acceptance.

Revenue from services is recognized as the services are performed. Revenue from prepaid service contracts is recognized ratably over the life of the contract. Revenue from spare parts is recorded upon shipment.

Deferred Profit – Revenue deferred pursuant to our revenue policy, net of the related deferred costs, if any, is recorded as deferred profit in current liabilities. The components of deferred profit are as follows:

	September 30,		
	2010	2009	2008
	(dollars in thousands)		
Deferred revenues	$ 12,577	$ 6,904	$ 6,934
Deferred costs	1,138	2,177	1,582
Deferred profit	$ 11,439	$ 4,727	$ 5,352

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Cash Equivalents – Cash equivalents consist of money market mutual funds invested in securities issued by the U.S. Government and its agencies and time certificates of deposit.

Restricted Cash – Current restricted cash of $6.2 million as of September 30, 2010 consists of collateral for bank guarantees required by certain customers from whom deposits have been received in advance of shipment. Current restricted cash of $1.5 million as of September 30, 2009 consists of collateral for bank guarantees of $1.0 million required by certain customers from whom deposits have been received in advance of shipment and cash in an escrow account related to contingent payments of $0.5 million paid in fiscal 2010 to the sellers of R2D upon the fulfillment of certain requirements.

Accounts receivable and allowance for doubtful accounts – Accounts receivable are recorded at the gross sales price of products sold to customers on trade credit terms. Accounts receivable are considered past due when payment has not been received from the customer within the normal credit terms extended to that customer. A valuation allowance is established for accounts when collection is no longer probable. Accounts are written off against the allowance when the probability of collection is remote.

The following is a summary of the activity in the Company's allowance for doubtful accounts:

	Years Ended September 30,		
	2010	2009	2008
	(dollars in thousands)		
Balance at beginning of year	$ 465	$ 588	$ 126
Provision / (adjustment)	(56)	(57)	468
Write offs	(228)	(66)	(50)
Acquired through business acquisitions	-	-	44
Balance at end of year	$ 181	$ 465	$ 588

Accounts Receivable - Unbilled and Other – Unbilled and other accounts receivable consist mainly of the contingent portion of the sales price that is not collectible until successful installation of the product. These amounts are generally billed upon final customer acceptance. The majority of these amounts are offset by balances included in deferred profit. As of September 30, 2010, the unbilled and other includes $2.2 million of Value Added Tax (VAT) receivables at our Netherlands operations. These are taxes that we have paid to our vendors that will be refunded to the Company by the government.

Concentrations of Credit Risk – Financial instruments that potentially subject the Company to significant concentrations of credit risk consist principally of cash and trade accounts receivable. The Company's customers consist of manufacturers of solar cells, semiconductors, semiconductor wafers, and MEMS located throughout the world. Credit risk is managed by performing ongoing credit evaluations of the customers' financial condition, by requiring significant deposits where appropriate, and by actively monitoring collections. Letters of credit are required of certain customers depending on the size of the order, type of customer or its creditworthiness, and its country of domicile. Reserves for potentially uncollectible receivables are maintained based on an assessment of collectability.

The Company maintains its cash, cash equivalents and restricted cash in multiple financial institutions. Balances in the United States are insured by the Federal Deposit Insurance Corporation (FDIC) up to $250,000 per institution. Balances on deposit exceed insured amounts. The Company also maintains cash in banks in The Netherlands and France that are uninsured. The Company has $62.2 million in cash and restricted cash that is not insured as of September 30, 2010.

As of September 30, 2010 three customers individually represented 25%, 11% and 11% of accounts receivable. As of September 30, 2009, receivables from three customers individually represented 19%, 11%, and 10% of accounts receivable, respectively

Refer to Note 8, Business Segments and Geographic Regions, for information regarding revenue and assets in other countries subject to fluctuation in foreign currency exchange rates.

Inventories – We value our inventory at the lower of cost or net realizable value. Costs for approximately 90% of inventory are determined on an average cost basis with the remainder determined on a first-in, first-out (FIFO) basis. The components of inventories are as follows:

	September 30, 2010	September 30, 2009
	(dollars in thousands)	
Purchased parts and raw materials	$ 12,894	$ 7,550
Work-in-process	9,497	3,277
Finished goods	1,926	2,628
	$ 24,317	$ 13,455

Property, Plant and Equipment - Property plant, and equipment are recorded at cost. Maintenance and repairs are charged to expense as incurred. The cost of property retired or sold and the related accumulated depreciation and amortization are removed from the applicable accounts when disposition occurs and any gain or loss is recognized. Depreciation and amortization is computed using the straight-line method. Depreciation expense was $1.3 million, $1.1 million and $1.0 million in fiscal 2010, 2009 and 2008, respectively. Useful lives for equipment, machinery and leasehold improvements range from three to seven years; for furniture and fixtures from five to ten years; and for buildings twenty years.

The following is a summary of property, plant and equipment:

	September 30, 2010	September 30, 2009
	(dollars in thousands)	
Land, building and leasehold improvements	$ 8,099	$ 7,124
Equipment and machinery	4,918	4,295
Furniture and fixtures	3,991	3,404
	17,008	14,823
Accumulated depreciation and amortization	(7,431)	(6,346)
	$ 9,577	$ 8,477

Goodwill - Goodwill and intangible assets with indefinite lives are not subject to amortization, but are tested for impairment at least annually. Goodwill is reviewed for impairment on an annual basis, typically at the end of the fiscal year, or more frequently if circumstances dictate. Circumstances in the quarter ended March 31, 2009 required the Company to test long-lived assets for recoverability and impairment. See Note 10, “Impairment and Restructuring Charge” for a description of the facts and circumstances leading to the interim impairment test and the amount and method of calculating the impairment charge.

Intangibles - Intangible assets are capitalized and amortized over their useful life if the life is determinable. If the life is not determinable, amortization is not recorded. Amortization expense related to intangible assets was $0.4 million, $0.5 million and $0.4 million in fiscal 2010, 2009 and 2008, respectively. The aggregate amortization expense for the intangible assets for each of the five succeeding fiscal years is estimated to be $0.4 million in 2011, 2012, 2013, 2014 and 2015 and $0.6 million, thereafter.

Long-lived assets are reviewed for impairment when events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Circumstances in the quarter ended June 30, 2010 and March 31, 2009 required the Company to test long-lived assets for recoverability and impairment. See Note 10, “Impairment and Restructuring Charge” for a description of the facts and circumstances leading to the interim impairment test and the amount and method of calculating the impairment charge.

The following is a summary of intangibles:

	Useful Life	September 30, 2010	September 30, 2009
		(dollars in thousands)	
Non-compete agreements	8 years	$ 166	$ 178
Customer lists	10 years	876	940
Technology	10 years	1,737	1,863
Licenses	10 years	890	1,500
Other	2-10 years	90	96
		3,759	4,577
Accumulated amortization		(1,188)	(749)
		$ 2,571	$ 3,828

Warranty –A limited warranty is provided free of charge, generally for periods of 12 to 24 months to all purchasers of the Company's new products and systems. Accruals are recorded for estimated warranty costs at the time revenue is recognized. The following is a summary of activity in accrued warranty expense:

	Years Ended September 30, 2010	2009	2008
	(dollars in thousands)		
Beginning balance	$ 1,429	$ 1,155	$ 256
Warranty expenditures	(622)	(942)	(602)
Assumed liability from acquisition	-	-	505
Reserve Adjustment	1,036	1,216	996
Ending balance	$ 1,843	$ 1,429	$ 1,155

Research and Development Expenses - Research and development expenses consist of the cost of employees, consultants and contractors who design, engineer and develop new products and processes; materials and supplies used in those activities; and product prototyping. The Company receives reimbursements through governmental research and development grants which are netted against these expenses. The table below shows gross research and development expenses and grants earned:

	Years Ended September 30, 2010	2009	2008
	(dollars in thousands)		
Research and development	$ 2,986	$ 1,169	$ 1,114
Grants earned	(868)	(660)	(20)
Net research and development	$ 2,118	$ 509	$ 1,094

Shipping expense – Shipping expenses of $2.5 million, $0.7 million and $1.0 million for fiscal 2010, 2009 and 2009 are included in selling, general and administrative expenses.

Foreign Currency Transactions and Translation – The functional currency of the Company's European operations is the Euro. Net income includes pretax net losses from foreign currency transactions of $0.4 million, $0.1 million and $0.1 million in fiscal 2010, 2009 and 2008, respectively. The gains or losses resulting from the translation of foreign financial statements have been included in other comprehensive income (loss).

Income Taxes – The Company files consolidated federal income tax returns and computes deferred income tax assets and liabilities based upon cumulative temporary differences between financial reporting and taxable income, carryforwards available and enacted tax laws.

Deferred tax assets reflect the tax effects of temporary differences between the carrying value of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Deferred tax assets are reduced by a valuation allowance when, in the opinion of management and based on the weight of available evidence, it is more likely than not that some portion or all of the deferred tax asset will not be realized. Each quarter the valuation allowance is re-evaluated.

Stock-Based Compensation - The Company measures compensation costs relating to share-based payment transactions based upon the grant-date fair value of the award. Those costs are recognized as expense over the requisite service period, which is generally the vesting period. The benefits of tax deductions in excess of recognized compensation cost are reported as cash flow from financing activities rather than as cash flow from operating activities.

Stock-based compensation expense for the fiscal years ended September 30, 2010, 2009 and 2008 reduced the Company's results of operations as follows:

	Years Ended September 30,		
	2010	2009	2008
	(dollars in thousands, except per share amounts)		
Effect on income before income taxes	$ (987)	$ (711)	$ (473)
Effect on net income	$ (558)	$ (547)	$ (380)
Effect on basic income per share	$ (0.06)	$ (0.06)	$ (0.04)
Effect on diluted income per share	$ (0.06)	$ (0.06)	$ (0.04)

The Company awards restricted shares under the existing share-based compensation plans. Our restricted share-awards vest in equal annual installments over a two or four-year period. The total value of these awards is expensed on a ratable basis over the service period of the employees receiving the grants. The "service period" is the time during which the employees receiving grants must remain employees for the shares granted to fully vest.

Qualified stock options issued under the terms of the plans have, or will have, an exercise price equal to, or greater than, the fair market value of the common stock at the date of the option grant, and expire no later than ten years from the date of grant, with the most recent grant expiring in 2020. Options vest over 1 to 5 years. The Company estimates the fair value of stock option awards on the date of grant using the Black-Scholes option pricing model using the following assumptions:

	Years Ended September 30,		
	2010	2009	2008
Risk free interest rate	2.1%	1.9%	3.3%
Expected life	6 years	6 years	6 years
Dividend rate	0%	0%	0%
Volatility	69%	66%	62%
Forfeiture rate	4%	6%	9%

To estimate expected lives for this valuation, it was assumed that options will be exercised at varying schedules after becoming fully vested. Forfeitures have been estimated at the time of grant and will be revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Forfeitures were estimated based upon historical experience. Fair value computations are highly sensitive to the volatility factor assumed; the greater the volatility, the higher the computed fair value of the options granted. The Company uses historical stock prices to determine the volatility factor.

Fair Value of Financial Instruments – Cash, Cash Equivalents and Restricted Cash - The carrying amount of these assets on the Company's Consolidated Balance Sheets approximates their fair value because of the short maturities of these instruments.

Receivables, Payables and Accruals—The recorded amounts of financial instruments, including Accounts Receivable, Accounts Payable, and Accrued Liabilities, approximate their fair value because of the short maturities of these instruments.

Long-term Debt— The carrying values of the Company's long-term debt (see Note 5) approximate fair value because their variable interest rates approximate the prevailing interest rates for similar debt instruments.

Pensions—The Company has retirement plans covering substantially all employees. The principal plans are defined contribution plans, except for the plans of the Company's operations in the Netherlands and France and the plan for hourly union employees in Pennsylvania. The Company's employees in the Netherlands participate in a multi-employer plan. Payment to defined contribution plans and the multi-employer plan are recognized as an expense in the Consolidated Statement of Operations as they fall due.

Impact of Recently Issued Accounting Pronouncements

In October 2009, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2009-13, Revenue Recognition–Multiple Deliverable Revenue Arrangements. This guidance updates the existing multiple-element revenue arrangements guidance currently included in FASB ASC 605-25, Revenue Recognition–Multiple–Element Arrangements. The revised guidance provides for two significant changes to the existing multiple element revenue arrangements guidance. The first change relates to the determination of when the individual deliverables included in a multiple-element arrangement may be treated as separate units of accounting. The second change modifies the manner in which the transaction consideration is allocated across the separately identified deliverables. This guidance also significantly expands the disclosures required for multiple-element revenue arrangements. The revised multiple-element revenue arrangements guidance will be effective the fiscal year ending September 30, 2011, however, early adoption is permitted, provided that the revised guidance is retroactively applied to the beginning of the year of adoption. The Company is not planning to adopt this guidance early and the Company has not yet determined the impact, if any, the adoption of this guidance will have on its consolidated financial statements.

2. Stock-Based Compensation

Stock-Based Plans –The 2007 Employee Stock Option Plan (the "2007 Plan), under which 500,000 shares could be granted, was adopted by the Board of Directors in April 2007, and approved by the shareholders in May 2007. The 1998 Employee Stock Option Plan (the "1998 Plan"), under which 50,000 shares could be granted, was adopted by the Board of Directors in January 1998, and approved by shareholders in March 1998. The number of shares available for options under the 1998 Plan has since been increased to 500,000 shares through authorization by the Board of Directors and approval of shareholders. The 1998 Plan expired in January 2008. The Non-Employee Directors Stock Option Plan was approved by the shareholders in 1996 for issuance of up to 100,000 shares of Common Stock to directors. In July 2005, the Board of Directors authorized, and shareholders approved, an increase in the number of shares available for options under the Non-Employee Directors Stock Option Plan to 200,000 shares. In the second quarter of fiscal 2009, the Company's shareholders approved an amendment to our 2007 Employee Stock Incentive Plan and our Non-Employee Directors Stock Option Plan to authorize an additional 900,000 and 150,000 shares, respectively.

Stock options issued under the terms of the plans have, or will have, an exercise price equal to or greater than the fair market value of the Common Stock at the date of the option grant and expire no later than 10 years from the date of grant, with the most recent grant expiring in 2020. Options issued by the Company vest over one to five years. The Company may also grant restricted stock awards under the 2007 Plan.

As of September 30, 2010 and 2009, the unamortized expense related to restricted shares was $0.6 million and $0.4 million and it is expected to be recognized over two and three years, respectively.

Restricted stock transactions and outstanding are summarized as follows:

	Years Ended September 30,			
	2010		2009	
	Awards	Weighted Average Grant Date Fair Value	Awards	Weighted Average Grant Date Fair Value
Beginning Outstanding	122,875	$ 5.85	30,500	$ 14.79
Awarded	40,751	8.00	100,000	3.80
Released	(33,625)	6.46	(7,625)	14.79
Forfeited	(1,250)	8.20	-	-
Ending Outstanding	128,751	$ 6.34	122,875	$ 5.85

Stock-based compensation plans are summarized in the table below:

Name of Plan	Shares Authorized	Shares Available	Options Outstanding	Plan Expiration
2007 Employee Stock Incentive Plan	1,400,000	821,737	388,437	Apr. 2017
1998 Employee Stock Option Plan	500,000	-	169,493	Jan. 2008
Non-Employee Directors Stock Option Plan	350,000	151,600	78,353	Jul. 2015
		973,337	636,283	

Stock options were valued using the Black-Scholes option pricing model. See Note 1 for further discussion. Stock option transactions and the options outstanding are summarized as follows:

	Years Ended September 30,					
	2010		2009		2008	
	Options	Weighted Average Exercise Price	Options	Weighted Average Exercise Price	Options	Weighted Average Exercise Price
Outstanding at beginning of period	691,403	$ 7.03	487,053	$ 8.39	450,303	$ 6.44
Granted	165,499	8.05	219,000	3.98	120,000	13.65
Exercised	(214,094)	6.19	(1,500)	2.00	(78,125)	5.37
Forfeited/cancelled	(6,525)	5.70	(13,150)	7.34	(5,125)	6.38
Outstanding at end of period	636,283	7.59	691,403	$ 7.03	487,053	$ 8.39
Exercisable at end of period	259,595	$ 7.97	317,877	$ 7.30	253,837	$ 6.54
Weighted average grant-date fair value of options granted during the period	$ 4.98		$ 2.33		$ 8.01	

The following tables summarize information for stock options outstanding and exercisable as of September 30, 2010:

Range of Exercise Prices		Options Outstanding Number Outstanding	Remaining Contractual Life (in years)	Average Exercise Price	Aggregate Intrinsic Value (in thousands)
$	3.01 - 4.00	160,315	8.2	3.75	2,278
	4.01 - 5.00	1,250	0.5	4.36	17
	5.01 - 6.00	41,349	6.7	5.38	520
	6.01 - 7.00	207,250	6.4	6.51	2,373
	7.01 - 8.00	23,000	5.9	7.30	245
	8.01 - 9.00	15,000	5.9	8.41	143
	9.01 - 10.00	5,000	5.4	9.05	45
	10.01 - 11.00	75,119	9.5	10.65	549
	11.01 - 15.00	108,000	7.2	13.99	429
		636,283	7.3	$ 7.59	$ 6,599
	Vested and expected to vest as of September 30, 2010	618,802	7.3	$ 7.60	$ 6,411

Range of Exercise Prices		Options Exercisable Number Exercisable	Weighted Average Exercise Price	Aggregate Intrinsic Value (in thousands)
$	3.01 - 4.00	29,491	3.71	420
	4.01 - 5.00	1,250	4.36	17
	5.01 - 6.00	36,545	5.42	458
	6.01 - 7.00	96,450	6.77	1,080
	7.01 - 8.00	18,000	7.30	192
	8.01 - 9.00	13,000	8.39	124
	9.01 - 10.00	5,000	9.05	45
	10.01 - 11.00	5,356	10.69	39
	11.01 - 15.00	54,503	13.97	218
		259,595	$ 7.97	$ 2,593

The aggregate intrinsic value in the tables above represents the total pretax intrinsic value, based on the Company's closing stock price of $17.96 per share as of September 30, 2010, which would have been received by the option holders had all option holders exercised their options as of that date. The total intrinsic value of stock options exercised during the fiscal years ended September 30, 2010, 2009 and 2008 was $1.8 million, less than $0.1 million and $0.6 million, respectively.

3. Earnings Per Share

Basic earnings per share is computed by dividing net income (loss) available to common stockholders (net income less accrued preferred stock dividends) by the weighted average number of common shares outstanding for the period. Diluted earnings (loss) per share is computed similarly to basic earnings per share except that the denominator is increased to include the number of additional common shares that would have been outstanding if potentially dilutive common shares had been issued, and the numerator is based on net income (loss). In the case of a net loss, diluted earnings per share is calculated in the same manner as basic earnings per share. Options and restricted stock of approximately 229,000, 721,500 and 160,500 shares are excluded from the fiscal 2010, 2009 and 2008 earnings per share calculations as they are anti-dilutive.

	2010		2009		2008	
	(dollars in thousands, except per share amounts)					
Basic Income (Loss) Per Share Computation						
Net income (loss)	$	9,563	$	(1,589)	$	2,857
Weighted Average Shares Outstanding:						
Common stock		9,022		9,019		8,719
Basic income (loss) per share	$	1.06	$	(0.18)	$	0.33
Diluted Income (Loss) Per Share Computation						
Net income (loss)	$	9,563	$	(1,589)	$	2,857
Weighted Average Shares Outstanding:						
Common stock		9,022		9,019		8,719
Common stock equivalents		215		-		127
Diluted shares		9,237		9,019		8,846
Diluted income (loss) per share	$	1.04	$	(0.18)	$	0.32

4. Other Long-Term Obligations

In October 2006, the Company financed a de-burring machine purchased in the fourth quarter of fiscal 2006. The Company financed $0.4 million at an interest rate of 7.43% with 60 equal monthly payments of $7,000, including principal and interest. The outstanding principal balance of this loan was $0.1 million and $0.2 million as of September 30, 2010 and 2009, respectively.

In October 2007, the Company acquired, through the acquisition of R2D, a CNC machine purchased in the 3rd quarter of fiscal 2007. The amount originally financed was $0.1 million at an interest rate of 5.1% with 60 equal monthly payments of $2,000, including principal and interest. The outstanding balance at the time of the acquisition was $0.1 million. The outstanding principal balance of this loan was less than $0.1 million and $0.1 million as of September 30, 2010 and 2009, respectively.

In October 2007, the Company acquired, through the acquisition of R2D, a CNC machine purchased in the 4th quarter of fiscal 2007. The amount originally financed was $0.1 million at an interest rate of 5.2% with 60 equal monthly payments of $2,000, including principal and interest. The outstanding balance at the time of the acquisition was $0.1 million. The outstanding principal balance of this loan was less than $0.1 million and $0.1 million as of September 30, 2010 and 2009, respectively.

Total maturities of long term debt are $0.1 million in 2011, less than $0.1 million in 2012 and zero, thereafter. Interest expense was $0.1 million, $0.1 million, and $0.2 million for fiscal 2010, 2009, and 2008, respectively.

5. Stockholders' Equity

Stock Repurchase Program – In December 2008, the Board of Directors approved a stock repurchase program authorizing the repurchase of up to $4 million of its common stock. Under the program, shares may be repurchased from time to time in open market transactions at prevailing market prices or in privately negotiated purchases. The timing and actual number of shares purchased will depend on a variety of factors, such as price, corporate and regulatory requirements, alternative investment opportunities, and other market and economic conditions. The program may be commenced, suspended or terminated at any time, or from time-to-time at management's discretion without prior notice. During fiscal 2009, the Company repurchased 144,000 shares for $0.4 million in cash at an average cost of $3.09 per share. The repurchased shares were retired immediately after the repurchases were complete. Retirement of the repurchased shares is recorded as a reduction of common stock and additional paid-in-capital.

Shareholder Rights Plan – On December 15, 2008, the Company and Computershare Trust Company, N.A., as Rights Agent (the "Rights Agent"), entered into an Amended and Restated Rights Agreement (the "Restated Rights Agreement") which amends and restates the terms governing the previously authorized shareholder rights (each a "Right") to purchase fractional shares of the Company's Series A Participating Preferred Stock ("Series A Preferred") currently attached to each of the Company's outstanding Common Shares, par value $0.01 per share ("Common Shares"). As amended, each Right entitles the registered holder to purchase from the Company one one-thousandth of a share of Series A Preferred at an exercise price of $51.60 (the "Exercise Price"), subject to adjustment. The Final Expiration Date (as defined in the Restated Rights Agreement) is December 14, 2018.

Other than extending the Final Expiration Date (as defined in the Restated Rights Agreement) of the Rights to December 14, 2018 and adjusting the Exercise Price, there were no material changes to the principal terms of the Rights. The Restated Rights Agreement also contains certain other changes in order to address current law and practice with respect to shareholder rights plans.

Public Offerings - In November 2007, the Company completed an underwritten public offering of 2,500,000 shares of its common stock at a price to the public of $14.41 per share. Net proceeds to the Company were approximately $33.6 million, net of approximately $0.3 million of offering expenses and $2.2 million of underwriting commissions. The Company intends to use the net proceeds from this offering for working capital and other general corporate purposes. Pending application of these proceeds, the Company will invest the net proceeds in short-term, interest bearing investment grade securities.

6. Commitments and Contingencies

Purchase Obligations – As of September 30, 2010, we had unrecorded purchase obligations in the amount of $40.1 million. These purchase obligations consist of outstanding purchase orders for goods and services. While the amount represents purchase agreements, the actual amounts to be paid may be less in the event that any agreements are renegotiated, cancelled or terminated.

Legal Proceedings –The Company and its subsidiaries are defendants from time to time in actions for matters arising out of their business operations. The Company does not believe that any matters or proceedings presently pending will have a material adverse effect on its consolidated financial position, results of operations or liquidity.

License agreement – The Company entered into amendments with one of our technology partners to both the PSG license and the PECVD license to expand the licenses to include one future model of the PSG dry etch systems and three future models of the PECVD system. These amendments to the licenses require the Company to pay additional license fees upon successful achievement of the agreed upon specifications of each of the four new models. The four payments range from three hundred million South Korean Won (KRW), approximately $230,000, to one billion KRW, approximately $780,000, for maximum total payments of approximately $1,420,000. Such payments will be recorded as additional intangibles, the cost of which will be amortized over the life of the license. Due to the extended amount of time to reach the agreed upon specifications it is uncertain whether these commitments will materialize.

Operating Leases – The Company leases buildings, vehicles and equipment under operating leases. Rental expense under such operating leases was $1.0 million in fiscal 2010 and $0.9 million in fiscal 2009 and 2008, respectively. As of September 30, 2010, future minimum rental commitments under non-cancelable operating leases with initial or remaining terms of one year or more totaled $3.2 million, of which $1.1 million, $0.6 million, $0.4 million, $0.3 million and $0.2 million is payable in fiscal 2011, 2012, 2013, 2014 and 2015, respectively, and $0.6 million, thereafter.

7. Major Customers and Foreign Sales

Three customers individually accounted for 28%, 16% and 20% of net revenue during fiscal 2010, 2009 and 2008, respectively. Yingli Green Energy (Yingli) accounted for 28%, 4% and 20% of our net revenue in fiscal 2010, 2009 and 2008, respectively.

Our net revenues for fiscal 2010, 2009 and 2008 were to customers in the following geographic regions:

	Years Ended September 30,		
	2010	2009	2008
United States	7%	18%	15%
Other	0%	0%	1%
Total North America	7%	18%	16%
Taiwan	17%	22%	14%
China	64%	39%	48%
Other	3%	7%	6%
Total Asia	84%	68%	68%
Germany	3%	5%	5%
Other	6%	9%	11%
Total Europe	9%	14%	16%
	100%	100%	100%

8. Business Segments and Geographic Regions

The Company is no longer required to present separate reportable segments as none of our operating segments meet the quantitative thresholds.

The Company has manufacturing operations in The Netherlands, United States and France. Revenues, operating income (loss) and identifiable assets by geographic region are as follows:

	Years Ended September 30,		
	2010	2009	2008
	(dollars in thousands)		
Net revenue:			
The Netherlands	$ 93,389	$ 40,854	$ 58,642
United States	15,020	9,877	18,478
France	11,610	2,242	3,176
	$ 120,019	$ 52,973	$ 80,296
Operating income (loss):			
The Netherlands	$ 12,165	$ 2,255	$ 6,342
United States	(1,955)	(4,131)	(2,304)
France	5,699	(62)	(236)
	$ 15,909	$ (1,938)	$ 3,802

	As of September 30,	
	2010	2009
Net Long-lived Assets (excluding intangibles and goodwill)		
The Netherlands	$ 8,273	$ 6,902
United States	3,532	2,182
France	457	533
	$ 12,262	$ 9,617

9. Income Taxes

The components of the provision (benefit) for income taxes are as follows:

	Year Ended September 30,		
	2010	2009	2008
	(dollars in thousands)		
Current:			
Domestic Federal	$ 200	(330)	$ 1,600
Foreign	7,200	640	2,300
Domestic state	110	10	20
	7,510	320	3,920
Deferred:			
Domestic Federal	(1,540)	(710)	(2,100)
Foreign	180	(110)	(140)
Domestic state	-	80	10
	(1,360)	(740)	(2,230)
	$ 6,150	$ (420)	$ 1,690

A reconciliation of actual income taxes to income taxes at the expected United States federal corporate income tax rate of 34 percent is as follows:

	Year Ended September 30,		
	2010	2009	2008
	(dollars in thousands)		
Tax provision (benefit) at the statutory federal rate	$ 5,340	$ (680)	$ 1,550
Effect of permanent book-tax differences	240	130	190
State tax provision	20	20	10
Valuation allowance for net deferred tax assets	90	80	(230)
Uncertain tax items	530		
Expiration of foreign net operating loss	-	-	70
Other items	(70)	30	100
	$ 6,150	$ (420)	$ 1,690

Deferred income taxes reflect the tax effects of temporary differences between the carrying value of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. The tax effects of temporary book-tax differences that give rise to significant portions of the deferred tax assets and deferred tax liability are as follows:

	Year Ended September 30,		
	2010	2009	2008
	(dollars in thousands)		
Deferred tax assets - current:			
Capitalized inventory costs	$ 470	$ 310	470
Inventory write-downs	820	870	700
Accrued Warranty	370	520	410
Deferred profits	(180)	(10)	1,800
Accruals and reserves not currently deductible	650	600	1,120
	2,130	2,290	4,500
Valuation allowance	-	-	-
Deferred tax assets - current net of valuation allowance	2,130	2,290	4,500
Deferred tax assets (liabilities)- non-current:			
Stock option expense	430	310	110
Book vs. tax basis of acquired assets	(670)	(830)	(900)
State net operating losses	380	300	220
Book vs. tax depreciation and amortization	350	150	(150)
Foreign tax credits	2,540	1,490	-
Other deferred tax assets	20	20	-
Total deferred tax assets - net	3,050	1,440	(720)
Valuation allowance	(390)	(300)	(220)
Deferred tax assets net of valuation allowance	$ 2,660	$ 1,140	$ (940)

Changes in the deferred tax valuation allowance are as follows:

	Year Ended September 30,		
	2010	2009	2008
	(dollars in thousands)		
Balance at the beginning of the year	$ 300	$ 220	$ 450
Additions (subtractions) to valuation allowance	90	80	(230)
Balance at the end of the year	$ 390	$ 300	$ 220

The Company has net operating losses in some states at September 30, 2010 which expire in varying amounts between 2011 and 2014. These operating losses have been fully reserved in those states where we determined that we will not be able to utilize those net operating losses. The Company has foreign tax credits which expire in varying amounts between 2018 and 2020.

Proper accounting for income taxes requires that a valuation allowance is recognized if, based on the weight of available evidence, it is more likely than not that some portion or all of the deferred tax asset will not be realized. Each quarter the valuation allowance is re-evaluated. Tax payments of $1.5 million were made and tax refunds of $0.7 million were received during fiscal 2010.

We adopted, as of the beginning of fiscal 2008, the standards required for accounting for uncertainty in income taxes. Prior to the adoption of these standards, our policy was to establish reserves that reflected the probable outcome of known tax contingencies. The effects of final resolution, if any, were recognized as changes to the effective income tax rate in the period of resolution. The standards adopted at the beginning of fiscal 2008 require application of a "more likely than not" threshold to the recognition and derecognition of uncertain tax positions. We currently recognize the amount of tax benefit that has a greater than 50 percent likelihood of being ultimately realized upon settlement. The standards further require that a change in judgment related to the expected ultimate resolution of uncertain tax positions be recognized in earnings in the quarter of such change.

As a result of adoption, we recorded a $0.3 million increase to tax liabilities, and a $0.3 million decrease to retained earnings at the beginning of fiscal 2008.

The following table sets forth changes in our total gross unrecognized tax benefit liabilities for fiscal 2010. Approximately $1.1 million of this total represents the amount that, if recognized would favorably affect our effective income tax rate in future periods.

	(dollars in thousands)
Balance as of September 30, 2009	$ 480
Tax positions related to current year:	
Additions	490
Reductions	-
Tax positions related to prior years:	
Additions	70
Reductions	-
Settlements	-
Lapses in statues of limitations	(30)
Balance as of September 30, 2010	$ 1,010

We have classified all of our liabilities for uncertain tax positions as income taxes payable long-term.

We report accrued interest and penalties related to unrecognized tax benefits in income tax expense. For fiscal 2010, we recognized a net expense for interest and penalties of $0.1 million resulting in an accrual of $0.2 million for potential accrued interest and penalties as of September 30, 2010.

We do not expect that the amount of our tax reserves will materially change in the next 12 months other than the continued accrual of interest and penalties.

We have not signed any agreements with the Internal Revenue Service, any state or foreign jurisdiction to extend the statute of limitations for any fiscal year. As such, the number of open years is the number of years dictated by statute in each of the respective taxing jurisdictions, but generally is from 3 to 5 years.

During the current fiscal year, we recorded a benefit of less than $0.1 million, resulting from the reversal of liabilities in taxing jurisdictions where the statute of limitations had expired.

Various examinations by United States, state or foreign tax authorities could be conducted for any open tax year.

10. Impairment and Restructuring Charge

Long-lived assets are reviewed for impairment when events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. The methods used to estimate fair value include the market approach (Level 2) and discounted cash flows (Level 3). The Company gives the greatest weight to the discounted cash flow method. The material estimates and assumptions used in the discounted cash flows method of determining fair valued include: the appropriate discount rate, given the risk-free rate of return and various risk premiums; projected revenues; projected material costs as a percentage of revenue; and the rate of increase in payroll and other expense.

In April 2007, the Company entered into a license agreement with one of the Company's technology partners to market, sell, install, service and manufacture machinery and equipment for the manufacturing of photovoltaic cells that employs PECVD Technology (Licensed Product) developed by the technology partner. Under the terms of this agreement the Company paid $1.0 million to the technology partner. The license agreement expires in January 2019. These payments are being amortized over the life of the agreement. Recently, several new competitors have entered the market and management has determined that the market opportunity for the licensed product has decreased. This recent development and the extended amount of time to develop the licensed product caused management to review the licensed product for impairment and recoverability.

In Fiscal 2010, it was determined that the carrying value of the license subject to amortization was not fully recoverable; therefore, an impairment charge of $0.6 million was recorded for the excess of carrying value over the fair value of the license. The fair value of the license was determined through estimates of the present value of future cash flows based upon the anticipated future use of the license.

The Bruce operations were restructured in the second quarter of fiscal 2009 to focus primarily on a parts supply business versus furnace systems sales. The restructuring resulted in a charge of $620,000 in the second quarter of fiscal 2009. We conducted an assessment of the ability to recover the carrying amount of long-lived assets of the Bruce operations. It was determined that the carrying value of the net assets was not fully recoverable; therefore, an impairment charge of $373,000 was recorded in the second quarter of fiscal 2009 for the excess of carrying value over the fair value of the customer list and non-compete agreement. The carrying values of goodwill ($89,000) and the Bruce trademark ($592,000) were also recorded as an impairment charge in the second quarter of fiscal 2009.

In the third quarter of fiscal 2008, Bruce Technologies operations were reorganized to better position the Company for profitability in light of lower plant utilization resulting from a slowdown in the semiconductor industry. As a result of this reorganization, the Company notified certain personnel of their termination date and severance and recorded a restructuring charge of $0.4 million. All amounts had been paid as of September 30, 2008. These charges are presented as a separate line item on the Consolidated Statements of Operations.

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11. Selected Quarterly Data (Unaudited)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Fiscal Year 2010:	(in thousands, except per share amounts)			
Revenue	$ 15,457	$ 16,077	$ 43,072	$ 45,413
Gross margin	$ 4,600	$ 4,708	$ 15,752	$ 17,652
Net income	$ 80	$ 206	$ 3,876	$ 5,401
Net income per share:				
Basic	$ 0.01	$ 0.02	$ 0.43	$ 0.60
Shares used in calculation	8,972	9,018	9,021	9,077
Diluted	$ 0.01	$ 0.02	$ 0.42	$ 0.58
Shares used in calculation	9,059	9,239	9,231	9,376
Fiscal Year 2009:	(in thousands, except per share amounts)			
Revenue	$ 17,872	$ 10,904	$ 12,528	$ 11,669
Gross margin	$ 6,086	$ 2,357	$ 3,582	$ 2,994
Net income (loss)	$ 860	$ (2,012)	$ (235)	$ (202)
Net income (loss) per share:				
Basic	$ 0.09	$ (0.22)	$ (0.03)	$ (0.02)
Shares used in calculation	9,098	9,057	8,960	8,960
Diluted	$ 0.09	$ (0.22)	$ (0.03)	$ (0.02)
Shares used in calculation	9,109	9,057	8,960	8,960

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures

Our management, including our Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO"), has carried out an evaluation of the effectiveness of our disclosure controls and procedures as defined in Exchange Act Rules 13a-15(e) and 15(d)-15(e). Based upon that evaluation, our CEO and CFO have concluded that our disclosure controls and procedures in place were effective as of September 30, 2010.

Management's Report on Internal Control Over Financial Reporting

To the Shareholders of Amtech Systems, Inc.,

The management of Amtech Systems, Inc. is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f). Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

Because of its inherent limitations, our controls and procedures may not prevent or detect misstatements. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the controls system are met. Because of the inherent limitations in all controls systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected.

Management assessed the effectiveness of our internal control over financial reporting based on the criteria in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on its evaluation under the criteria in Internal Control — Integrated Framework, management concluded that our internal control over financial reporting was effective as of September 30, 2010.

There were no changes in our internal controls over financial reporting that occurred during the year ended September 30, 2010, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

The Company's independent registered public accounting firm, Mayer Hoffman McCann P.C., has issued an audit report on the Company's internal control over financial reporting. The report on the audit of internal control over financial reporting is set forth below.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders of

AMTECH SYSTEMS, INC.

We have audited the internal control over financial reporting of Amtech Systems, Inc. and subsidiaries (the “Company”) based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Amtech Systems, Inc.’s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management’s Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the effectiveness of the Company’s internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the consolidated financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of September 30, 2010, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets and the related consolidated statements of operations, stockholders’ equity and comprehensive income (loss), and cash flows of Amtech Systems, Inc., and our report dated November 15, 2010 expressed an unqualified opinion.

/s/ MAYER HOFFMAN MCCANN P.C.

Phoenix, Arizona

November 15, 2010

ITEM 9B. OTHER INFORMATION

None.

PART III

Pursuant to Paragraph G(3) of the General Instructions to Form 10-K, the information required by Part III of Form 10-K are incorporated by reference to Amtech's Definitive Proxy Statement to be filed with the Securities and Exchange Commission in connection with its 2011 Annual Meeting of Stockholders (the "Proxy Statement").

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND GOVERNANCE

The information required by this item is incorporated herein by reference to the Proxy Statement, which will be filed with the Securities and Exchange Commission within 120 days of the end of our fiscal year.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this item is incorporated herein by reference to the Proxy Statement, which will be filed with the Securities and Exchange Commission within 120 days of the end of our fiscal year.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this item is incorporated herein by reference to the Proxy Statement, which will be filed with the Securities and Exchange Commission within 120 days of the end of our fiscal year.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this item is incorporated herein by reference to the Proxy Statement, which will be filed with the Securities and Exchange Commission within 120 days of the end of our fiscal year.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this item is incorporated herein by reference to the Proxy Statement, which will be filed with the Securities and Exchange Commission within 120 days of the end of our fiscal year.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a)(1) The consolidated financial statements required by this item are set forth on the pages indicated at Item 8.

(2) All financial statement schedules are omitted because they are either not applicable, or because the required information is shown in the consolidated financial statements or notes thereto.

(3) Exhibits: The response to this section of Item 15 is included in the Exhibit Index of this Annual Report on Form 10-K and is incorporated herein by reference.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

AMTECH SYSTEMS, INC.

November 15, 2010	By:	/s/ Bradley C. Anderson Bradley C. Anderson, Vice President – Finance and Chief Financial Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report on Form 10-K has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated:

SIGNATURE	TITLE	DATE
* Jong S. Whang	Chairman of the Board, President and Chief Executive Officer (Principal Executive Officer)	November 15, 2010
/s/ Bradley C. Anderson Bradley C. Anderson	Vice President – Finance and Chief Financial Officer (Principal Financial Officer)	November 15, 2010
* Robert T. Hass	Chief Accounting Officer (Principal Accounting Officer)	November 15, 2010
* Michael Garnreiter	Director	November 15, 2010
* Alfred W. Giese	Director	November 15, 2010
* Egbert J.G. Goudena	Director	November 15, 2010
* Robert F. King	Director	November 15, 2010
* Dr. Jeong Mo Hwang	Director	November 15, 2010

*By: /s/ Bradley C. Anderson
Bradley C. Anderson, Attorney-In-Fact**

**By authority of the power of attorney
filed as Exhibit 24 hereto.

EXHIBIT INDEX

EXHIBIT NO.	DESCRIPTION	METHOD OF FILING
3.1	Articles of Incorporation	A
3.2	Articles of Amendment to Articles of Incorporation, dated April 27, 1983	A
3.3	Articles of Amendment to Articles of Incorporation, dated May 19, 1987	B
3.4	Articles of Amendment to Articles of Incorporation, dated May 2, 1988	C
3.5	Articles of Amendment to Articles of Incorporation, dated May 28, 1993	D
3.6	Articles of Amendment to Articles of Incorporation, dated March 14, 1999	E
3.7	Certificate of Designations, Preferences and Privileges of the Series A Convertible Preferred Stock, dated April 21, 2005	K
3.8	Amended and Restated Bylaws	F
4.1	Amended and Restated Rights Agreement as of December 15, 2008, by between Amtech systems, Inc. and Computershare Trust Company, N.A., including the form of Certificate of Designation, the form of Rights Certificate and the Summary of Rights attached thereto as Exhibits A, B and C, respectively.	G
4.2	Form of Subscription Agreement for the Series A Convertible Preferred Stock	K
+10.1	Amended and Restated 1995 Stock Option Plan	H
+10.2	Non-Employee Directors Stock Option Plan, as amended through March 11, 2010.	I
+10.3	Employment Agreement with Robert T. Hass, dated May 19, 1992	J
10.4	Warrant to Purchase Common Stock, dated April 22, 2005	L
10.5	Loan and Security Agreement (Domestic), dated April 7, 2006, between Silicon Valley Bank and the Company.	M
10.6	Loan and Security Agreement (EXIM), dated April 7, 2006, between Silicon Valley Bank and the Company.	M
10.7	Export-Import Bank of the United States Working Capital Guarantee Program Borrower Agreement, dated April 7, 2006.	M
10.8	Third Amendment to Lease, dated as of August 11, 2006, between Wakefield Investments, Inc. and Bruce Technologies, Inc.	N
+10.9	2007 Employee Stock Incentive Plan, as amended through March 11, 2010.	O
10.10	Sale Agreement, dated March 15, 2007, for purchase of manufacturing facility Located in Vassen, The Netherlands by Tempress Holdings B.V. from Mr. F. H. Van Berlo.	P
+10.11	Amended and Restated Employment Agreement between Amtech and Jong S. Whang	P
10.12	Stock Purchase and Sale Agreement, by and among Tempress Holdings, B.V., R2D Ingenierie SAS and the Shareholders of R2D Ingenierie SAS, dated as of October 8, 2007.	O
+10.13	Change of Control Severance Agreement, dated as of March 10, 2008 between Amtech and Bradley Anderson.	R
10.14	Amended and Restated Change of Control and Severance Agreement between Amtech and Robert T. Hass	I
21.1	Subsidiaries of the Registrant	*
23.1	Consent of Independent Registered Public Accounting Firm - Mayer Hoffman McCann P.C.	*
24.1	Powers of Attorney	*
31.1	Certification Pursuant to Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934, as Amended	*
31.2	Certification Pursuant to Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934, as Amended	*
32.1	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	*
32.2	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	*

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*	Filed herewith.
+	Indicates management contract or compensatory plan or arrangement.
A	Incorporated by reference to Amtech's Form S-1 Registration Statement No. 2-83934-LA.
B	Incorporated by reference to Amtech's Annual Report on Form 10-K for the year ended September 30, 1987.
C	Incorporated by reference to Amtech's Annual Report on Form 10-K for the year ended September 30, 1988.
D	Incorporated by reference to Amtech's Form S-1 Registration Statement (File No. 33-77368).
E	Incorporated by reference to Amtech's Annual Report on Form 10-K for the year ended September 30, 1999.
F	Incorporated by reference to Amtech's Current Report on Form 8-K filed with the Securities and Exchange Commission on January 8, 2008.
G	Incorporated by reference to Amtech's Current Report on Form 8-K, filed with the Securities and Exchange Commission on December 15, 2008.
H	Incorporated by reference to Amtech's Form S-8 Registration Statement (related to the Amended and Restated 1995 Stock Option Plan), filed with the Securities and Exchange Commission on August 9, 1996.
I	Incorporated by reference to Amtech's Current Report on Form 8-K, filed with the Securities and Exchange Commission on March 17, 2010.
J	Incorporated by reference to Amtech's Annual Report on Form 10-K for the year ended September 30, 1993.
K	Incorporated by reference to Amtech's Current Report on Form 8-K filed with the Securities and Exchange Commission on April 28, 2005.
L	Incorporated by reference to Amtech's Annual Report on Form 10-K for the year ended September 30, 2005.
M	Incorporated by reference to Amtech's Current Report on Form 8-K, filed with the Securities and Exchange Commission on April 12, 2006.
N	Incorporated by reference to Amtech's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2006.
O	Incorporated by reference to Amtech's Proxy Statement for its 2007 Annual Shareholders' Meeting, filed with the Securities and Exchange Commission on April 24, 2007.
P	Incorporated by reference to Amtech's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2007.
Q	Incorporated by reference to Amtech's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 11, 2007.
R	Incorporated by reference to Amtech's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 11, 2008.