

ACORN ENERGY, INC.  
Form 424B5  
December 21, 2010

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Registration No. 333-169434

PROSPECTUS SUPPLEMENT  
(To Prospectus dated October 27, 2010)

1,150,000 shares of Common Stock  
Warrants to purchase 80,500 shares of Common Stock  
and 80,500 shares of Common Stock issuable upon exercise of Warrants

This prospectus supplement and the accompanying prospectus relate to the offer and sale of up to 1,150,000 shares of our common stock, warrants exercisable for up to an additional 80,500 shares of our common stock and the issuance of up to 80,500 shares of our common stock upon exercise of the warrants. The public offering price of the common stock being sold is \$3.50 per share.

Our common stock is traded on the Nasdaq Global Market under the symbol “ACFN.” On December 17, 2010, the closing price of our common stock on the Nasdaq Global Market was \$3.68 per share.

We are offering these shares on a best efforts basis. We have retained HFP Capital Markets LLC to act as our exclusive placement agent in this offering, and we will pay fees to it in connection with this offering equal to 7.0% of the proceeds of the offering. In addition, we have agreed to issue a warrant to HFP Capital Markets LLC exercisable to acquire 80,500 shares of our common stock representing 7.0% of the of the shares offered hereby. The warrant is exercisable for cash or on a cashless basis for a period of five years at a price of \$3.68, the closing price for our common stock on December 17, 2010. We have also agreed to reimburse the placement agent for certain expenses incurred by it in connection with the offering. The placement agent is not required to purchase or sell any of the shares offered by this offering, but will use its commercially reasonable efforts to sell the shares offered. Because there is no minimum offering amount required as a condition to closing in this offering, the actual public offering amount, placement agent’s fee and net proceeds to us, if any, in this offering are not presently determinable and may be substantially less than the maximum offering amounts set forth below.

Investing in our securities involves a high degree of risk. See “Risk Factors” beginning on page S-4 of this prospectus supplement.

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

|                                                  | Per Share | Total        |
|--------------------------------------------------|-----------|--------------|
| Public offering price                            | \$ 3.50   | \$ 4,025,000 |
| Placement agent’s fee (1)                        | \$ 0.245  | \$ 281,750   |
| Proceeds to Acorn Energy, Inc. (before expenses) | \$ 3.255  | \$ 3,743,250 |

(1) In addition to the placement agent’s fee, we have also agreed to issue to the placement agent warrants to purchase up to an aggregate of 80,500 shares of our common stock at an exercise price of \$3.68 per share. Assumes all of the shares offered hereby are sold and that the placement agent receives a fee for all of the shares sold. See the section entitled “Plan of Distribution” for a full description of the compensation to be paid to the placement agent. We estimate the total expenses of this offering, excluding the placement agent’s fee, will be approximately \$50,000.

Delivery of the shares to purchasers will be made on or about December 21, 2010.

As Placement Agent

December 17, 2010

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This prospectus supplement and the accompanying prospectus relate to the sale of up to 1,150,000 shares of our common stock, warrants exercisable for up to an additional 80,500 shares of our common stock and the issuance of up to 80,500 shares of our common stock upon exercise of the warrants. You should rely only on the information contained in this prospectus supplement, the accompanying base prospectus and the documents incorporated by reference herein or therein. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information contained in this prospectus supplement and the accompanying base prospectus is accurate only as of their respective dates, regardless of the time of delivery of this prospectus supplement and accompanying base prospectus or of any sale of shares. Our business, financial condition, results of operations and prospects may have changed after the date of this prospectus supplement. You should not consider this prospectus supplement or the accompanying base prospectus to be an offer or solicitation relating to the securities in any jurisdiction in which such an offer or solicitation relating to the securities is not authorized. Furthermore, you should not consider this prospectus supplement or the accompanying base prospectus to be an offer or solicitation relating to the securities if the person making the offer or solicitation is not qualified to do so, or if it is unlawful for you to receive such an offer or solicitation.

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## ABOUT THIS PROSPECTUS SUPPLEMENT

You should carefully read this entire prospectus supplement and the accompanying base prospectus, including the information included and referred to under “Risk Factors” below, the information incorporated by reference in this prospectus supplement and in the accompanying base prospectus and the financial statements and the other information incorporated by reference in the accompanying base prospectus, before making an investment decision.

This prospectus supplement and the accompanying base prospectus are part of registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or SEC, using a “shelf” registration process. Under this shelf registration process, we may offer and sell any combination of securities described in the accompanying base prospectus in one or more offerings, up to a total dollar amount of \$20,000,000. The accompanying base prospectus provides you with a general description of the securities we may offer. Each time we use the accompanying base prospectus to offer securities, we will provide a prospectus supplement (such as this prospectus supplement) that will contain specific information about the terms of that offering. This prospectus supplement, the accompanying base prospectus and the documents incorporated by reference herein and therein include important information about us, the securities we are offering and placement arrangements of the offering and other information you should know before investing.

To the extent that any statement that we make in this prospectus supplement is inconsistent with statements made in the accompanying base prospectus, the statements made in this prospectus supplement modify or supersede those made in the accompanying base prospectus. You should read both this prospectus supplement and the accompanying base prospectus together with additional information described under the heading, “Where You Can Find More Information,” which are collectively referred to herein as “this prospectus.”

## SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement, the base prospectus and the registration statement of which it forms a part and the documents incorporated by reference into these documents contain forward-looking statements within the meaning of Section 27A of the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. We use words such as “anticipates,” “believes,” “plans,” “expects,” “future,” “intends,” “will,” “foresee” and similar expressions to identify these forward-looking statements. These forward-looking statements are subject to certain known and unknown risks and uncertainties, as well as assumptions that could cause actual results to differ materially from those reflected in these forward-looking statements. Factors that might cause actual results to differ include, but are not limited to, those set forth and referenced in the section entitled “Risk Factors” beginning on page S-4 of this prospectus supplement. Readers are cautioned not to place undue reliance on any forward-looking statements contained herein, which reflect management’s opinions only as of the date hereof. Except as required by law, we undertake no obligation to revise or publicly release the results of any revision to any forward-looking statements. You are advised, however, to consult any additional disclosures we have made or will make in our reports to the SEC on Forms 10-K, 10-Q and 8-K. All subsequent written and oral forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by the cautionary statements contained in this prospectus supplement and the base prospectus.

## PROSPECTUS SUPPLEMENT SUMMARY

This summary description highlights selected information contained elsewhere in this prospectus supplement or incorporated herein by reference. This summary may not contain all of the information that you should consider before buying securities in this offering. You should carefully read this entire prospectus supplement and the base prospectus, including each of the documents incorporated herein or therein by reference, before making an investment decision. As used herein, “we,” “us,” and “our” refer to Acorn Energy and its subsidiaries.

### Our Company

Acorn Energy is a holding company focused on improving the efficiency and environmental impact of the energy infrastructure, fossil fuel and nuclear industries. Our operating companies are focused on three problems in the energy sector: improving the efficiency of the energy grid; reducing the risk for owners of large energy assets; and reducing the environmental impact of the energy sector. Our companies leverage advanced technologies to transform the existing energy infrastructure. We aim to acquire primarily controlling positions in companies led by promising entrepreneurs and we add value by supporting those companies with financing, branding, positioning, and strategy and business development.

Through our majority-owned operating subsidiaries we provide the following services:

- **SCR Catalyst and Management Services.** We provide selective catalytic reduction, or SCR, management and catalyst regeneration services for coal-fired power plants through our CoaLogix subsidiary. These services include SCR catalyst management, cleaning and regeneration as well as consulting services to help power plant operators to optimize efficiency and reduce overall nitrogen oxide compliance costs.
- **Naval and RT Solutions.** We provide sonar and acoustic related solutions for energy, defense and commercial markets with a focus on underwater site security for strategic energy installations and other real-time and embedded hardware and software development and production through our DSIT subsidiary.
- **Smart Grid Distribution Automation** products and services are provided by our GridSense subsidiary which provides remote monitoring and control systems to electric utilities and industrial facilities worldwide.
- **Energy and Security Sensor Systems** products and services are provided by our U.S. Sensor Systems, Inc. subsidiary (“USSI”) which develops and produces “state of the art” fiber optic sensing systems for the energy, commercial security and defense markets worldwide.

Since August 2008 we also provided energy infrastructure software services through our Coreworx Inc. subsidiary. On November 9, 2010, the Company entered into a letter of intent with Coreworx for the Company to sell all of its common stock in Coreworx to a management buyout group consisting of Coreworx’ management and certain employees and other investors. For more information, see Note 15 to the unaudited consolidated financial statement included in our quarterly report on Form 10-Q for the quarterly period ended September 30, 2010. The transaction closed on December 17, 2010.

### Our Corporate Information

Our executive offices are located at 4 West Rockland Road, Montchanin, Delaware 19710, our telephone number at that location is (302) 656-1707, and our website can be accessed at [www.acornenergy.com](http://www.acornenergy.com). Information contained in our website does not constitute part of this prospectus supplement or the base prospectus.

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## THE OFFERING

|                                                                                                       |                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Common stock offered by us                                                                            | 1,150,000 shares                                                                                                                                                    |
| Warrants offered by us                                                                                | 80,500                                                                                                                                                              |
| Common stock issuable upon exercise of the warrants                                                   | 80,500 shares                                                                                                                                                       |
| Common stock outstanding before this offering (1)                                                     | 16,116,005 shares                                                                                                                                                   |
| Common stock to be outstanding after this offering<br>(assuming sale of all 1,150,000 offered shares) | 17,266,005 shares                                                                                                                                                   |
| Use of proceeds                                                                                       | We intend to use the net proceeds received from the sale of the shares for working capital and other general corporate purposes. See “Use of Proceeds” on page S-5. |
| Risk factors                                                                                          | See “Risk Factors” included and referred to on page S-4 for a discussion of factors you should carefully consider before deciding to invest in our common stock.    |
| Nasdaq Global Market symbol                                                                           | ACFN                                                                                                                                                                |

(1) Does not include: 233,306 warrants outstanding, all of which are exercisable at a price of \$4.50, and 1,504,121 options outstanding and exercisable with a weighted average exercise price of \$3.60 per share, which warrants and options, if exercised, would result in the issuance of an additional 1,737,427 shares of our common stock; and 393,544 options that are outstanding, but have not yet vested.

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## RISK FACTORS

An investment in our common stock involves a high degree of risk. Before making an investment decision you should carefully consider the risks described below and the risks and uncertainties described in our other periodic filings, including Part II, Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2009, which is incorporated by reference herein, and the other information set forth or incorporated by reference in this prospectus supplement and the accompanying base prospectus. The risks and uncertainties described or incorporated by reference in this prospectus supplement and the accompanying prospectus are not the only ones we face. Additional risks and uncertainties that we are unaware of or that we believe are not material at this time could also materially adversely affect our business, financial condition or results of operations. You should also refer to our financial statements and the notes to those statements, which are incorporated by reference in this prospectus supplement.

Our use of the offering proceeds may not yield a favorable return on your investment.

We currently intend to use the net proceeds received from the sale of the securities for working capital and other general corporate purposes. Our management has broad discretion over how these proceeds are used and could spend the proceeds in ways with which you may not agree. Pending the use of the proceeds in this offering, we will invest them. However, the proceeds may not be invested in a manner that yields any significant return.

As a new investor, you will incur substantial dilution from the price paid in this offering.

The offering price is substantially higher than the net tangible book value per share of our outstanding common stock. As a result, based on our capitalization as of September 30, 2010, investors purchasing common stock in this offering will incur immediate dilution of \$1.26 per share of common stock purchased, based on the offering price of \$3.50 per share. Such investors may experience additional dilution upon the exercise of outstanding stock options and warrants having exercise prices less than the per share offering price to the public in this offering. See “Dilution” on page S-5.

Our share price may decline due to the large number of shares of our common stock eligible for future sale in the public market including shares underlying warrants and options.

A substantial number of shares of our Common Stock are or could become eligible for sale in the public market as described below. Sales of a substantial number of shares of our common stock in the public market, or the possibility of these sales, may adversely affect our stock price.

As of the date hereof, 16,116,005 shares of our common stock are issued and outstanding. We have 233,306 warrants outstanding and exercisable, all of which have an exercise price of \$4.50, and 1,504,121 options outstanding and exercisable with a weighted average exercise price of \$3.60 per share, which if exercised would result in the issuance of an additional 1,737,427 shares of our common stock. An additional 393,544 options are outstanding, but have not yet vested.

Substantially all our outstanding shares and shares issuable under our outstanding options and warrants are or would be freely tradable.

In addition to the 1,150,000 shares being offered in this offering, we will be issuing warrants to purchase 80,500 shares to HFP Capital Markets LLC as part of the remuneration for its services as placement agent in connection with this offering. Such warrants may be exercised for cash or on a “cashless basis” at a price of \$3.68 per share and will be freely tradable upon issuance.



## USE OF PROCEEDS

We estimate that the net proceeds of this offering, after deducting placement agent fees and our estimated offering expenses, will be approximately \$3.7 million, assuming all the shares offered hereby are sold.

We expect to use the net proceeds from this offering for general corporate purposes.

## DILUTION

If you invest in our shares, your interest in the common stock contained therein will be diluted to the extent of the difference between the public offering price per share of our shares and the net tangible book value per share of our common stock after this offering. Our net tangible book value on September 30, 2010 was approximately \$34,932,000, or approximately \$2.17 per share of common stock. Net tangible book value per share is determined by dividing our net tangible book value, which consists of tangible assets less total liabilities, by the number of shares of common stock outstanding on that date. Dilution in net tangible book value per share represents the difference between the amount per share paid by purchasers of shares in this offering and the net tangible book value per share of common stock immediately after the completion of this offering. Without taking into account any other changes in our net tangible book value after September 30, 2010, other than to give effect to our receipt of the estimated proceeds from the sale of the maximum number of shares issuable in this offering (1,150,000 shares) at a public offering price of \$3.50 per share, less the fees due to the placement agent and our estimated offering expenses, our pro forma net tangible book value as of September 30, 2010, after giving effect to the items above, would have been approximately \$38,625,000, or \$2.24 per share. This represents an immediate increase in the net tangible book value of \$0.07 per share to existing stockholders and an immediate dilution of \$1.70 per share to anyone who purchases shares in the offering. The following table illustrates this per share dilution:

|                                                                                                            |    |      |
|------------------------------------------------------------------------------------------------------------|----|------|
| Public offering price per share:                                                                           | \$ | 3.50 |
| Net tangible book value per share as of September 30, 2010                                                 | \$ | 2.17 |
| Increase in net tangible book value per share attributable to this offering:                               | \$ | 0.07 |
| Pro forma net tangible book value per share as of September 30, 2010 after giving effect to this offering: | \$ | 2.24 |
| Dilution per share to new investors in this offering:                                                      | \$ | 1.26 |

The foregoing table is based 16,116,005 shares of our common stock outstanding as of September 30, 2010.

In addition, the calculations in the foregoing table do not take into account any of the following:

- 1,897,665 shares subject to outstanding options as of September 30, 2010, having a weighted average exercise price of \$3.84, none of which have been exercised through the date hereof;
- 233,306 shares subject to outstanding warrants as of September 30, 2010, having a weighted average exercise price of \$4.50, none of which have been exercised through the date hereof;

To the extent that any of our outstanding options or warrants are exercised, we grant additional options under our stock option plans or issue additional warrants, or we issue additional shares of common stock in the future, there may be further dilution to new investors.

## PLAN OF DISTRIBUTION

HFP Capital Markets LLC, referred to as the placement agent, has entered into a placement agent agreement, dated as of December 17, 2010, with us in which it has agreed to act as placement agent in connection with the offering. Subject to the terms and conditions contained in the placement agency agreement, the placement agent is using its commercially reasonable efforts to introduce us to potential investors who will purchase the securities. The placement agent is not purchasing or selling any shares offered by this prospectus supplement nor is it required to arrange the purchase or sale of any specific number of shares, but has agreed to use its commercially reasonable efforts to arrange for the sale of all of the shares offered hereby. The placement agent has solicited indications of interest from investors for the full amount of the offering. We will enter into subscription agreements directly with investors in connection with this offering and we may not sell all the shares offered pursuant to this prospectus supplement.

Any compensation paid by us to the placement agent in connection with the offering of the securities offered in this prospectus supplement, and any discounts, concessions or commissions allowed by the placement agent to participating dealers, are set forth below. In no event will the total amount of compensation paid to any member of The Financial Industry Regulatory Authority upon completion of the offering exceed 8.0% of the maximum gross proceeds of such offering.

We have agreed to pay the placement agent a fee equal to 7.0% of the proceeds of this offering. The following table shows the per share and total fees we will pay to the placement agent in connection with the sale of the shares offered pursuant to this prospectus supplement assuming the sale of all of the shares offered hereby and that the placement agent receives a fee for all of the shares sold.

|           |            |
|-----------|------------|
| Per Share | \$ 0.245   |
| Total     | \$ 281,750 |

Because there is no minimum offering amount required as a condition to closing in this offering, the actual total offering commissions, if any, are not presently determinable and may be substantially less than the maximum amount set forth above.

In addition, we have agreed to issue a warrant to HFP Capital Markets LLC exercisable to acquire 80,500 shares of our common stock representing 7.0% of the of the shares offered hereby. The warrant is exercisable for cash or on a cashless basis for a period of five years at a price of \$3.68, the closing price for our common stock on December 17, 2010.

We have also agreed to reimburse the placement agent, on a fully accountable basis, for legal and other expenses that it incurs in connection with the offering up to \$8,000.

Unless other arrangements are made with a particular investor, all investor funds will be delivered directly to us. We have not accepted any investor funds prior to the date of this prospectus supplement.

Our obligation to issue and sell shares to the investors is subject to the conditions set forth in the placement agency agreement, which may be waived by us at our discretion. An investor's obligation to purchase shares is subject to the conditions set forth in the subscription agreement as well, which may also be waived.

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We currently anticipate that the sale of the shares of common stock offered hereby will be completed on or about December 21, 2010. At the closing, The Depository Trust Company will credit the shares of common stock to the respective accounts of the investors.

We have agreed to indemnify the placement agent and certain other persons against certain liabilities under the Securities Act.

This is a brief summary of the material provisions of the placement agency agreement and does not purport to be a complete statement of its terms and conditions. The placement agency agreement and the form of subscription agreement will be exhibits to our Form 8-K to be filed with the SEC on or about December 20, 2010, and will be incorporated by reference into the registration statement of which this prospectus supplement forms a part from and after that date. See "Where You Can Find More Information" on page S-7.

The placement agent has informed us that it will not engage in over-allotment, stabilizing transactions or syndicate covering transactions in connection with this offering.

#### LEGAL MATTERS

The validity of the issuance of securities offered by this prospectus supplement will be passed upon for us by Eilenberg & Krause LLP, New York, New York. The Law Offices of Stephen M. Fleming PLLC, Rockville Centre, New York has represented the placement agent in connection with the offering.

#### EXPERTS

The consolidated financial statements as of December 31, 2009 and 2008, and for each of the three years in the period ended December 31, 2009, incorporated in this Prospectus by reference from the Company's Annual Report on Form 10-K, have been audited by Kesselman & Kesselman, a member of PricewaterhouseCoopers International Limited, an independent registered public accounting firm, as stated in their report which is incorporated herein by reference. Such consolidated financial statements have been so included in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

#### WHERE YOU CAN FIND MORE INFORMATION

We file reports, proxy statements and other information with the SEC. Copies of our reports, proxy statements and other information may be inspected and copied at the SEC's Public Reference Room at 100 F. Street, N.E., Washington, D.C. 20549. Copies of these materials can also be obtained by mail at prescribed rates from the Public Reference Room of the SEC, 100 F. Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC maintains an internet site that contains reports, proxy and information statements and other information regarding our company and other issuers that file electronically with the SEC. The address of the SEC internet site is [www.sec.gov](http://www.sec.gov). This information is also available on our website at [www.acornenergy.com](http://www.acornenergy.com). Information contained in our website does not constitute part of this prospectus supplement or the base prospectus.

## INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to “incorporate by reference” into this prospectus the information we have filed with the SEC. This means that we can disclose important information by referring you to those documents. All documents that we subsequently file with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, prior to the termination of this offering, will be deemed to be incorporated by reference into this prospectus and to be a part hereof from the date of filing of such documents. Unless expressly incorporated into this prospectus, a Current Report (or portion thereof) furnished, but not filed, on Form 8-K shall not be incorporated by reference into this prospectus. Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

We incorporate by reference the following documents that we have filed with the SEC and any filings that we will make with the SEC in the future under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act until this offering is terminated:

- Annual Report on Form 10-K for the fiscal year ended December 31, 2009;
- Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2010;
- Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2010;
- Quarterly Report on Form 10-Q for the fiscal quarter ended September 30, 2010;
- Current Report on Form 8-K filed February 24, 2010;
- Current Report on Form 8-K filed March 4, 2010;
- Current Report on Form 8-K filed March 9, 2010;
- Current Report on Form 8-K filed April 9, 2010;
- Current Report on Form 8-K filed May 4, 2010 and amended on Forms 8-K/A filed May 5, 2010 and July 15, 2010;
  - Current Report on Form 8-K filed May 13, 2010 and amended on Form 8-K/A filed June 17, 2010;
    - Current Report on Form 8-K filed June 16, 2010;
    - Current Report on Form 8-K filed July 27, 2010;
  - Current Report on Form 8-K filed July 30, 2010 and amended on Form 8-K/A filed July 30, 2010;
    - Current Report on Form 8-K filed September 20, 2010;
    - Current Report on Form 8-K filed October 22, 2010;





- Current Report on Form 8-K filed November 12, 2010
- Current Report on Form 8-K filed December 20, 2010; and
- The description of our Common Stock contained in our Form 8-A filed December 13, 2007.

Copies of these filings are available free of charge by writing to Acorn Energy, Inc., 4 West Rockland Road, Montchanin, Delaware 19710, Attention: Joe B. Cogdell, Jr., Secretary, or by telephoning us at (302) 656-1707. We will also provide to each person, including any beneficial owner, to whom a prospectus is delivered, a copy of any or all of the information that has been incorporated by reference in this prospectus supplement but not delivered with this prospectus supplement. See “Where You Can Find More Information.”

Any statement made in this prospectus supplement concerning the contents of any contract, agreement or other document is only a summary of the actual document. You may obtain a copy of any document summarized in this prospectus at no cost by writing to or telephoning us at the address and telephone number given above. Each statement regarding a contract, agreement or other document is qualified in its entirety by reference to the actual document.

1,150,000 shares of Common Stock  
Warrants to purchase 80,500 shares of Common Stock  
and 80,500 shares of Common Stock issuable upon exercise of Warrants

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PROSPECTUS SUPPLEMENT

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December 17, 2010

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