

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549**

**FORM 10-K**

**x ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2010

or

**.. TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

**Commission file number 001-32636**

**SULPHCO, INC.**

(Exact name of registrant as specified in its charter)

**Nevada**

(State or other jurisdiction of incorporation or organization)

**88-0224817**

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

**4333 W. Sam Houston Pkwy N., Suite 190**

**Houston, TX**

(Address of principal executive offices)

**77043**

(Zip Code)

**(713) 896-9100**

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

**Common Stock, Par Value \$0.001 Per Share**

(Title of each class)

**NYSE Amex**

(Name of each exchange on which registered)

Securities registered pursuant to Section 12(g) of the Act: **None**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes  No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes  No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes  No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer   
Non-accelerated filer  (Do not check if a smaller reporting company)

Accelerated filer   
Smaller Reporting Company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes  No

The aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to the price at which the common equity was last sold on June 30, 2010, the last business day of the registrant's most recently completed second fiscal quarter, was \$24,641,733.

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date. The number of shares of Common Stock outstanding on March 15, 2011, was 115,042,075.

Documents incorporated by reference: portions of the registrant's proxy statement for its 2011 Annual Meeting of Stockholders are incorporated by reference into Part III of this Form 10-K.

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**SULPHCO, INC.**  
**2010 FORM 10-K ANNUAL REPORT**

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## Forward-Looking Statements

This report contains forward-looking statements within the meaning of the federal securities laws that relate to future events or our future financial performance. In some cases, you can identify forward-looking statements by terminology, such as "may," "will," "should," "could," "expect," "plan," "anticipate," "believe," "estimate," "project," "predict," "intend," "potential" or "continue" or the negative of such terms or other comparable terminology, although not all forward-looking statements contain such terms.

In addition, these forward-looking statements include, but are not limited to, statements regarding implementing our business strategy; development, commercialization and marketing of our products; our intellectual property; our estimates of future revenue and profitability; our estimates or expectations of continued losses; our expectations regarding future expenses, including research and development, sales and marketing, manufacturing and general and administrative expenses; difficulty or inability to raise additional financing, if needed, on terms acceptable to us; our estimates regarding our capital requirements and our needs for additional financing; attracting and retaining customers and employees; sources of revenue and anticipated revenue; and competition in our market.

Forward-looking statements are only predictions. Although we believe that the expectations reflected in these forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. All of our forward-looking information is subject to risks and uncertainties that could cause actual results to differ materially from the results expected. Although it is not possible to identify all factors, these risks and uncertainties include the risk factors and the timing of any of those risk factors identified in "Item 1A. Risk Factors" section contained herein, as well as the risk factors and those set forth from time to time in our filings with the Securities and Exchange Commission ("SEC"). These documents are available through our website, <http://www.sulphco.com>, or through the SEC's Electronic Data Gathering and Analysis Retrieval System ("EDGAR") at <http://www.sec.gov>.

References in this report to "we," "us," "our company," "the Company," and "SulphCo" refer to SulphCo, Inc., a Nevada corporation.

## PART I

### Item 1. Business.

#### Overview

SulphCo is an energy technology company focused on the development and commercialization of an oxidative desulfurization (“ODS”) process for liquid petroleum streams including crude oil products, crude oils, natural gasoline and condensate streams. SulphCo’s oxidative desulfurization process consists of (1) the ultrasound assisted conversion of the sulfur compounds to their oxidized analogs employing its patented and proprietary Sonocracking™ technology, and (2) the subsequent removal of these oxidized compounds via adsorption, extraction, water wash or other similar separation techniques (the “SulphCo Process”).

Ever increasing environmental regulations are mandating the reduction of sulfur content in many fuels, including gasoline and diesel fuel. For example, the sulfur specification for finished diesel fuel in certain jurisdictions is less than 10 parts per million (“ppm”), while typical starting concentrations are in the thousands of ppm. The currently practiced method for desulfurization is hydrodesulfurization (“HDS”). HDS requires a large capital investment and suffers from high hydrogen and energy consumption as severe operating conditions have to be employed to treat the most refractory sulfur compounds. In contrast, the SulphCo Process allows for comparably mild reaction conditions such as ambient temperatures and mild pressures, resulting in a potentially more cost effective and energy efficient alternative to HDS for certain applications within the refining, transportation, and blending market segments.

We maintain our principal executive offices and facilities at 4333 W. Sam Houston Pkwy N., Suite 190, Houston, Texas 77043. Our telephone number is (713) 896-9100. Our corporate website is [www.sulphco.com](http://www.sulphco.com). The information contained on our website is not part of this report.

#### Research and Development Activities Update

The following is an update of the Company’s more significant research and development activities conducted during 2010.

##### Development of Catalyst Systems and Sulfur Removal Processes

Activities during 2010 continued to center around optimizing additive packages for the sulfur conversion step as well as establishing key parameters for the adsorption or extraction process typically needed for sulfur removal. Targeted efforts to improve cost/benefit ratios have led to the identification of a preferred new, cost effective catalyst system that distinguishes itself through high reactivity towards a wide range of sulfur compounds, robustness towards process conditions and wide range of applicability. In diesel finishing and transmix applications, less than 10 ppm sulfur content has routinely been achieved employing this catalyst system. In addition, this catalyst system is also effective in natural gasoline and condensate streams.

A major focus of 2010 has been laboratory and pilot scale work, along with a commercial scale validation test, directed toward the desulfurization of natural gasoline, an important blend stock for on-road gasoline. The above mentioned catalyst system has proven to be highly effective in the oxidation of the sulfur compounds contained in the samples of natural gasoline evaluated during 2010. At least as important, the resulting oxidized sulfur species are water soluble due to their small molecular size and can be removed by employing a simple water wash. The primary objective of the initial lab work was directed towards establishing suitable ranges of the additives to establish a first indication of the commercial viability of the process. Follow-up lab and pilot scale work were performed to understand the operating window and the robustness of the process. These laboratory and pilot scale results ultimately led to a successful commercial validation trial with a mid-stream energy company (the “Mid-Stream Energy Company”). Key results of the commercial validation trial are discussed in more detail below.

Our research relating to sulfur removal for diesel and transmix streams focused on adsorption and a new effort in extraction. The bulk of the work during 2010 relative to diesel finishing was conducted in the context of a collaboration with a Brazilian oil company. Adsorption is a potential means of sulfur removal for product streams with low sulfur content (100 ppm or less), while extraction is preferred for product streams with higher concentrations of sulfur content. At least two potential adsorbent alternatives have been identified and characterized. Also, a suitable extraction solvent has been identified. Ongoing work will be oriented towards process implementation for the adsorption and extraction based processes. SulphCo is investigating a cooperation agreement or agreements with other companies to design engineering and process packages for the adsorption and extraction elements of the system.

#### Ultrasound Probe, Reactor and Control Systems

During 2010, the collaborative research between SulphCo and Märkisches Werk Halver, GmbH (“MWH”) continued to center around simplifying and enhancing the user friendliness of the ultrasound probe system. Highlights included the development of a prototype forged probe to allow simplified mass production, a prototype tool that simplifies ultrasound probe swap-out and the development of an explosion proof transducer cooling jacket. Also, high intensity endurance testing of the current ultrasound probe/transducer assembly continued with positive results.

#### **Business Development Activities Update**

The following is an update on the more significant business development activities in the regions that were the focal point of the Company’s efforts during 2010.

With respect to the Company’s ongoing commercial efforts, we continue to see interest in the Sonocracking™ process as potential customers identify the value that can be driven by the technology. We are pursuing what we believe are opportunities presenting the highest likelihood of near-term success for the technology (i.e., crude oil product streams such as diesel fuel, natural gasoline, and naphtha as well as low to moderate sulfur-containing crude oils and condensates) and are working with several potential customers to achieve this goal.

#### North America

On June 23, 2010, SulphCo announced that it had executed a validation agreement (the “Validation Agreement”) with a wholly owned subsidiary of a Mid-Stream Energy Company. Pursuant to the terms of the Validation Agreement, SulphCo agreed to install a mobile Sonocracking™ unit at the Mid-Stream Energy Company’s natural gas liquids (“NGL”) fractionation facility located in Mont Belvieu, Texas for the purpose of evaluating the commercial scale performance of SulphCo’s Sonocracking™ technology on certain natural gasoline streams produced at the facility following laboratory tests on such streams. The installation and operational commissioning of the Sonocracking™ unit began during the week of June 28, 2010 and was completed during the week ending August 27, 2010 with the two companies working together to jointly prepare the site at the Mont Belvieu facility. During this period, SulphCo’s installation team, in conjunction with site engineers based at the Mont Belvieu facility, successfully installed the mobile Sonocracking™ unit and conducted commissioning tests to assure safe operations and equipment reliability.

Commercial scale validation tests began during the week of August 30, 2010. The initial work involved a number of trials designed to define the operating parameters within which different operating variables such as additive levels and throughput rates could be optimized. Over the course of the commercial scale validation phase, a variety of natural gasoline streams with starting sulfur levels ranging from less than 150 ppm to more than 400 ppm were treated successfully with resulting sulfur levels routinely coming in at the sulfur reduction target of less than 45 ppm and with volumetric throughput rates on a single processing line ranging from 1,000 barrels-per-day (“BPD”) to 3,000 BPD. Five weeks of commercial scale validation trials culminated during the week ended October 1, 2010 (after approximately 120 hours of probe testing operation) with SulphCo then conducting a continuous run of 42 hours on a single processing line with volumetric flow rates ranging from 1,500 BPD to 2,000 BPD and resulting sulfur levels consistently less than 45 ppm with most results being below 30 ppm.

The two companies jointly agreed that the results achieved during the commercial scale validation phase met or exceeded the performance parameters that were established in the Validation Agreement and had mutually agreed to move forward with negotiations on a definitive commercial agreement. Late in the afternoon of October 27, 2010, SulphCo unexpectedly received notice from the Mid-Stream Energy Company that it had elected to immediately terminate all discussions pursuant to the Validation Agreement regarding any agreement, including a proposed commercial agreement for the near term.

During the later part of 2009 and into the first quarter of 2010, SulphCo was pursuing a specific condensate application with an integrated major oil company with a facility located in North America. We have performed several lab-scale trials to demonstrate the effectiveness of our technology in this particular application. Technical representatives from this company visited our Houston offices in June 2009 to confirm the lab-scale results and subsequently recommended the installation of a Sonocracking™ unit at this company's facility in North America. In November 2009, this potential customer changed the process requirements associated with this condensate application. In response to this change, SulphCo formulated a proposed solution that met the new technical requirements and provided it to this potential customer. Late in the first quarter of 2010, the potential customer notified SulphCo that it had completed its evaluation of investment and process options for this condensate application and had decided not to use the SulphCo Process for this particular application.

Since the spring of 2010, SulphCo has been in discussions with a leading energy delivery company to employ SulphCo's Sonocracking™ technology to "sweeten" or convert sulfur compounds in a plant condensate stream to address odor issues. SulphCo has made presentations to this potential customer's engineering staff that was followed by a site visit to review existing infrastructure and options for installation. This potential customer is currently evaluating the Sonocracking™ technology for this sweetening application.

We have presented in-house laboratory and third-party data with respect to the performance of the Sonocracking™ technology to an independent refiner located in the United States. Based on those presentations and discussions, we are working on samples of various streams from its facility to determine the best value proposition for the technology in its system. We have sent a collaboration proposal to this potential customer and are awaiting results of further laboratory tests to determine steps forward. It is anticipated that this proposal may lead to collaboration on application specific technology developments and commercial scale demonstrations.

On September 15, 2009, SulphCo reported that it had executed a letter of intent with Laguna Development Corporation ("Laguna") to move toward the installation of SulphCo's desulfurization technology at Laguna's New Mexico trans-mix facility. In September 2010, SulphCo received notice from Laguna that had it elected to terminate discussions pursuant to its letter of intent. On November 13, 2009, SulphCo reported that it had executed a letter of intent with Golden Gate Petroleum ("Golden Gate") to move toward the installation of SulphCo's technology at Golden Gate's Nevada trans-mix facility. SulphCo continues to work with Golden Gate and other companies in the trans-mix market to meet their technical and commercial requirements to produce ultra-low sulfur diesel. As of the date of this report, Golden Gate had not decided whether it wanted to go forward with the proposal that had been presented to it by SulphCo.

In addition to the ongoing discussions described above, we have been contacted by several new potential customers expressing interest in the Sonocracking™ technology, including product pipeline companies, integrated major oil companies, independent oil companies, and small refiners. The applications include sulfur reduction in natural gasoline, natural gas condensates, naphthas and diesel fuels. Work continues on samples provided by several of these potential customers which will form the basis for their evaluation of the Sonocracking™ technology in their respective systems.

There can be no assurance that the Company will be successful in implementing any commercial agreements relative to the opportunities discussed above.

#### Europe

SulphCo and OMV Refining and Marketing GmbH (“OMV”) entered into a technology agreement in the first quarter of 2009 and have been working together since that time to jointly evaluate SulphCo’s Sonocracking™ technology in several of OMV’s refining applications. During the first quarter of 2010, SulphCo’s efforts with OMV centered on the evaluation of certain additional product streams from OMV’s facility in Burghausen, Germany. During the second quarter of 2010, OMV collected and shipped samples of these product streams to SulphCo for further evaluation. Testing of these samples has shown promising results.

There can be no assurance that the Company will be successful in implementing any commercial agreements relative to these opportunities.

#### South America

Based on technical data presented by SulphCo at meetings with an Argentinean based oil company in 2009, the distribution agreement between SulphCo and J.W. Tecnologia Servicios Petroleros S.A.C. (“South American Distributor”) was expanded to include that certain company in Argentina. We have also performed tests on crude oil and petroleum product streams provided by other South American companies through our South American Distributor that are within their territory and have achieved results consistent with testing performed on diesel fuels and oils originating from other areas of the world. Proposals for collaboration were sent to these potential customers in early 2009 and have lead to additional discussions on possible collaborative efforts to utilize the Sonocracking™ technology on specific customer applications. Additionally, SulphCo representatives, along with our South American Distributor met with two oil companies in Peru during March 2010 to discuss diesel fuel applications. Samples of diesel from two different refineries in Peru owned by one of these oil companies have been sent to SulphCo for testing and evaluation.

Further, as a result of laboratory tests on samples provided by a large integrated oil company in Brazil, technology meetings were held in that country during the first quarter of 2009 and again during the first quarter of 2010. Based on positive feedback from these meetings, a proposal for collaboration on application specific technology and commercial scale demonstrations was sent to this potential customer. In response to this proposal, discussions are being held with this company to identify the value proposition for site specific applications and determine the appropriate actions moving forward. Samples of diesel from the Brazilian oil company have been delivered to SulphCo’s Houston facility and testing on the samples is set to begin as soon as possible. It is anticipated these discussions may ultimately lead to commercial demonstrations.

There can be no assurance that the Company will be successful in implementing any commercial agreements relative to the opportunities discussed above.

## **General Description of Our Technology**

SulphCo's patented and proprietary Sonocracking™ technology is designed to use high power ultrasound to alter naturally occurring molecular structures. Under certain conditions, ultrasonic waves can induce cavitation in a liquid. Cavitation involves the creation of bubbles at the sites of refraction owing to the tearing of the liquid from the negative pressure of intense sound waves in the liquid. The bubbles then oscillate under the effect of positive pressure, growing to an unstable size as the wave fronts pass. The ultrasound waves stress these bubbles, leading to their growth, contraction, and eventual implosion, generating excess heat and pressure in and around every micrometer and sub-micrometer-sized bubble. The entire process takes a few nanoseconds and each bubble can behave as a micro-reactor, accelerating the physical reactions owing to the heat released and localized pressures obtained. The high temperature (estimated to be as high as 5,000 degrees Kelvin) and pressure (estimated to be as high as 500 atmospheres) reached locally can potentially cause disruption of molecular bonds.

The SulphCo Process applies high-power ultrasonic energy to a mixture of crude oil products or crude oil in conjunction with a catalyst and an oxidant. The ultrasound provides an intense shearing and mixing environment for the mixture and, along with the effects from cavitation, allows for efficient oxygen transfer from the oxidant to sulfur-containing and other compounds in the crude oil product or crude oil stream. Aside from the oxidation of sulfur compounds, the process may also bring about the disruption of complex asphaltenic structures and rupturing of bonds of complex hydrocarbons, which in turn may result in upgrading the overall hydrocarbon content by reducing the overall density and thereby increasing the API gravity.

SulphCo's proprietary Sonocracking™ units are designed to treat large volumes of petroleum products at relatively low temperatures and pressures. The base design and capacity for the Sonocracking™ technology consists of skid mounted processing lines capable of up to 5,000 Bpd of throughput. Successive lines can be added to scale capacities in multiples of up to 5,000 Bpd. SulphCo has designed and implemented modular units with up to 15,000 Bpd capacity that are skid mounted and can be transported in a typical shipping container. These units possess smaller "footprints" and are expected to have lower capital costs when compared to the conventional hydrotreating equipment and other upgrading technologies. This mobility and relative low capital cost make installation of Sonocracking™ equipment in the upstream (production), midstream (blending and transportation) and downstream (refining) sectors very flexible, with the ability to match customer capacity needs while requiring a relatively small "footprint."

## **The Market for Our Technology**

### ***Potential Improvements and Benefits***

The SulphCo Process is designed to produce a number of desirable effects, including the oxidation and removal of sulfur compounds. Other improvements, such as heavy metal reduction/concentration, may also be possible. The degree to which any one or more of these improvements occur after treatment with the SulphCo Process depends heavily on the feed oil or fuel characteristics, including molecular makeup of sulfur compounds, asphaltene level and microstructure, acidity and several other factors. Not all crude oil or crude oil products will respond to the treatment to the same levels, therefore it is critical to optimize the process for a given feed stream to maximize the process benefits.

The economic benefit derived from the SulphCo Process depends on the overall improvement imparted to the crude oil products or crude oil in conjunction with customer and application-based drivers such as, but not limited to, crude oil and crude oil product pricing spreads, reduction in operating costs including reduced catalyst loading, lower hydrogen usage and lower carbon footprint, improved processing flexibility, and other benefits. Since different sectors of the oil market have unique individual needs and potential benefits, it is necessary to evaluate the overall benefit provided by the SulphCo Process in the context of the customer application, improvement in the oil or product stream, and market pricing.

### ***The Refining Market (downstream)***

The SulphCo Process is expected to provide economic benefits for oil refiners through the reduction of sulfur content in either the crude oil feed or crude oil products such as gasoline, kerosene, diesel fuel, or bunker fuel oil. As each refinery is unique, potential benefits of Sonocracking™ technology to an individual refiner will vary, depending on such factors as plant configuration, the type of crude oil processed and product specifications.

These potential benefits include:

- Lower raw material (i.e., crude oil) costs due to greater flexibility of feeds;
- Lower desulfurization costs when compared to traditional hydrotreating processes; and
- Possible reduction of carbon footprint.

#### *Lower Raw Material Costs*

While crude oils have differing characteristics, the relative cost of crude oil is influenced primarily by its relative density and sulfur content. Typically, there is a direct correlation between oil density and sulfur content, with more dense crude generally containing higher sulfur concentrations. Therefore, crude oil with lower density and lower sulfur concentrations is generally sold at a higher price than higher density crude oil with higher sulfur concentrations.

The cost of crude oil is generally considered to be the cost component with the greatest leverage on the profitability of an oil refinery. Therefore, a refinery will normally seek to purchase the most economical grade of crude oil which is suitable for its refinery operations. Typically, refineries will not have identical requirements and the suitability of a particular grade of crude oil will normally depend upon the refining capabilities of a particular refinery and the types of finished products it produces. For example, complex refineries, (i.e., refineries which have more extensive refining capabilities) can more readily process heavier grades of crude oil containing higher sulfur concentrations. Due to price differentials based upon the density and sulfur content of crude oil, a refinery (regardless of complexity) will normally seek to purchase the least expensive heavy grade oil with the highest sulfur content that can be refined within its capabilities. In turn, as the market “spread” between light sweet crude oil and heavy sour crude oil increases, so too should a refinery’s profit margin if it has the capability of processing heavier sour crude oil.

#### *Lower Desulfurization Costs*

The traditional process for removing sulfur compounds from crude oil products is hydrotreating. Hydrotreating is a high temperature, high pressure, high catalyst cost, and hydrogen consuming process employed in many refineries around the world. The intensity of the hydrotreating process is driven largely by the chemical makeup of the sulfur compounds present in the crude oil product streams. Certain types of sulfur molecules (e.g., dibenzothiophenes) require very intensive treatment and high catalyst and hydrogen loadings to remove the latent sulfur. SulphCo’s oxidative desulfurization approach modifies dibenzothiophenes by oxidizing the sulfur which in turn changes the chemical composition to either a sulfoxide or a sulfone. The sulfoxides and sulfones can be removed from the streams via secondary processes such as extraction or adsorption, which in turn eliminates the need to hydrotreat those compounds. Alternatively, the sulfoxides and sulfones can be hydrotreated directly under milder reaction conditions and in some instances with significantly less hydrogen. Therefore, SulphCo’s Sonocracking™ technology has the potential to reduce the hydrotreating costs associated with crude oil product streams.

### *Reduced Carbon Footprint*

The hydrotreating of crude oil products to reduce the sulfur levels to meet governmental standards and regulations requires a significant amount of hydrogen. This hydrogen is typically produced through a process that utilizes some form of light gas such as propane or methane and produces carbon dioxide as a by-product. Therefore, a process that reduces the amount of sulfur in a crude oil product stream has the potential to reduce the amount of hydrogen needed to treat that stream to meet the requirements. In turn, less hydrogen is required to be produced, thereby leading to lower carbon dioxide emissions. SulphCo's Sonocracking™ process is designed to reduce the amount of sulfur in crude oil and crude oil products and therefore has the potential to reduce the carbon footprint at potential customer facilities.

### *The Transporting and Blending Market (mid-stream)*

SulphCo's Sonocracking™ technology can also provide a low cost sulfur reduction alternative for the transition mixture ("Transmix") market. Transmix processors must comply with sulfur regulations currently being phased in over the next several years. For the retail diesel market, the Transmix processors must supply on-road diesel that meets the less than 15 ppm sulfur target by June 2010. SulphCo's Sonocracking™ process can reduce the sulfur levels to the required limits in an economic fashion. Over the next few years, applications in non-road diesel, marine, and locomotive markets will all start requiring diesel fuel that meets the less than 15 ppm sulfur specification therefore the potential market for SulphCo's technology should grow.

SulphCo's Sonocracking™ technology can also potentially improve the blending economics for mid-stream crude oil blenders and transporters. Treating high sulfur crude oil using the SulphCo Process is expected to reduce the sulfur content and allow more of this treated crude oil to be blended into the crude oil streams, while still meeting the various pipeline specifications. In addition to the blending economics, in some cases blenders can save on the high cost of alternative transportation versus crude oil pipelines.

### *The Oil Producer Market (upstream)*

The SulphCo Process could potentially provide economic benefits for oil producers. These benefits include, among other things, the ability to obtain higher prices for treated crude oil.

The price of crude oil is based primarily on characteristics such as API gravity (relative density) and sulfur content. Because the SulphCo Process is designed to remove oxidized sulfur compounds in a commercial setting, this should allow oil producers that treat crude oil with the SulphCo Process to obtain a higher price from distributors and refiners as a result.

According to the Energy Information Administration, as of the end of 2008, it was estimated that the world consumes approximately 85.4 million barrels of oil per day. Of this, approximately 60 million barrels per day comes from medium and heavy crude oil.

### *Geographic Scope of Our Market*

We have a 50% ownership interest in Fujairah Oil Technology LLC ("FOT") in Fujairah, United Arab Emirates and are actively pursuing commercial opportunities in other parts of the world including North America, South America, Europe and the Middle East. As the potential markets for our technology include countries with significant oil producing or refining activities, we expect to conduct business in other parts of the world as well. These activities may be conducted by us directly, or through partners, licensees or other third parties, in connection with the potential commercialization of our technologies.

## Patents and Trademarks

SulphCo has sole ownership of and exclusive rights to eight (8) issued United States patents and one (1) pending United States patent application. Our granted U.S. Patents and pending U.S. patent applications include:

### Granted U.S. Patents:

- Power Driving Circuit for Controlling a Variable Load Ultrasonic Transducer, U.S. patent no. 7,408,290;
- Loop-Shaped Ultrasound Generator and Use in Reaction Systems, U.S. patent no. 7,275,440;
- Conversion of Petroleum Resid to Usable Oils with Ultrasound, U.S. patent no. 7,300,566;
- Oxidative Desulphurization of Fossil Fuels with Ultrasound, U.S. patent no. 6,402,939;
- Continuous Process for Oxidative Desulphurization of Fossil Fuels with Ultrasound and Products Thereof, U.S. patent no. 6,500,219;
- Ultrasound-Assisted Desulfurization of Fossil Fuels in the Presence of Dialkyl Ethers, U.S. patent no. 6,827,844;
- Corrosion Resistant Ultrasonic Horn, U.S. patent no. 6,652,992; and
- High-Throughput Continuous-Flow Ultrasound Reactor, U.S. patent no. 7,559,241.

### Pending U.S. Patent applications:

- Ultrasonic Horn, pending U.S. patent application no. 12/696,556 filed on January 29, 2010.

In addition, SulphCo has sole ownership of and exclusive rights to fifty-two (52) patents issued in jurisdictions outside of the United States and forty-nine (49) pending patent applications in jurisdictions outside the United States to protect other aspects and applications of the Company's technologies. These include, but are not limited to, new processes and procedures, developed by SulphCo personnel, required to manufacture higher power ultrasound equipment for use in SulphCo's desulfurization units.

The trademarks SulphCo™, Sonocracking™, Sonocracker™, and Sonocracked Crude™ are registered in the United States.

## Competitive Business Conditions

We are a new entrant in the market for development and sale of upgrading technology to the oil industry. SulphCo faces well established and well funded competition from a number of sources. Our competitors in this area include oil companies, oil refineries and manufacturers of conventional oil refinery equipment such as hydrotreaters. Most of these entities have substantially greater research and development capabilities and financial, scientific, manufacturing, marketing, sales and service resources than we do. Because of their experience and greater research and development capabilities, our competitors might succeed in developing and commercializing new competing technologies or products which could render our technologies or products obsolete or non-competitive.

The SulphCo Process is based upon the novel use of high power ultrasound to effect beneficial changes in the chemical composition of crude oil. We believe this process gives us a competitive advantage because it is unique in that it “pre-treats” crude oil by both reducing relative density of oil and reducing sulfur content prior to being fed into the traditional refinery operation. Other than our proprietary Sonocracking™ process, we are not aware of any process in commercial use which is capable of both reducing the density of crude oil and reducing sulfur content other than the conventional refinery process itself.

SulphCo’s Sonocracking™ units, which are intended to operate in conjunction with traditional refinery equipment, are expected to provide additional upgrading benefits at a substantially reduced capital and operating cost compared to conventional refinery operations. These units are also expected to provide a cost-effective method for oil producers to upgrade their crude oil prior to its sale to refiners.

We believe that our issued and pending patents and proprietary know-how will provide us with a significant competitive advantage over other companies seeking to commercialize new methods of increasing the API gravity of crude oil or reducing its sulfur content which are more cost-effective or more efficient than the methods which are currently commercially available.

### **Research and Development During the Last Three Years**

During the past three years, our research and development expenditures have been directed toward the upgrading and desulfurization of crude oil and crude oil products and the improvement of our high power ultrasound technology. During the years ended December 31, 2010, 2009 and 2008, our research and development costs totaled approximately \$2.2 million, \$3.7 million, and \$4.1 million, respectively.

### **Effects of Government Regulation; Regulatory Approvals**

#### *Government Regulation of Sulfur Levels in Petroleum Products*

The reduction of sulfur levels in petroleum products has become a major issue for oil refiners. Developed countries in recent years have increasingly mandated the use of low or ultra low sulfur petroleum products. As a result, refineries are faced with the incurrence of extremely expensive capital improvements for their refinery processes, altering their end product mix, or in some instances ceasing the production of low sulfur products entirely. Our technology is expected to benefit from the impact of existing and proposed government mandates which regulate sulfur content, in both the U.S. and in developed countries abroad.

For example, refinery operations in the U.S. and many of the petroleum products they manufacture are subject to certain specific requirements of the federal Clean Air Act (“CAA”) and related state and local regulations and with the Environmental Protection Agency (“EPA”). The CAA may direct the EPA to require modifications in the formulation of the refined transportation fuel products in order to limit the emissions associated with their final use. In December 1999, the EPA promulgated national regulations limiting the amount of sulfur that is to be allowed in gasoline. The EPA has stated that such limits are necessary to protect new automobile emission control systems that may be inhibited by sulfur in the fuel. The regulations required the phase-in of gasoline sulfur standards beginning in 2004, with special extended phase-in provisions over the next few years for refineries meeting specified requirements. In addition, the EPA recently promulgated regulations that limit the sulfur content of highway diesel fuel beginning in 2006 to 15 ppm. The former standard was 500 ppm. The EPA has also proposed regulations intended to limit the sulfur content of diesel fuel used in non-road activities such as in the mining, construction, agriculture, railroad and marine industries.

### ***Regulatory Approvals***

The regulatory environment that pertains to our business is complex, uncertain and changing rapidly. Although we anticipate that existing and proposed governmental mandates regulating the sulfur content of petroleum products will continue to provide an impetus for customers to utilize our Sonocracking™ technology, it is possible that the application of existing environmental legislation or regulations or the introduction of new legislation or regulations could substantially impact our ability to commercialize our proprietary technology, which could in turn negatively impact our business.

Operation of our Sonocracking™ units is subject to a variety of federal, state and local health and environmental laws and regulations governing product specifications, the discharge of pollutants into the air and water, and the generation, treatment, storage, transportation and disposal of solid and hazardous waste and materials. Permits with varying terms of duration may be required for the operation of our Sonocracking™ units, and these permits may be subject to revocation, expiration, modification and renewal. Governmental authorities have the power to enforce compliance with these regulations and permits, and violators are subject to injunctions, civil fines and even criminal penalties.

Our activities to date have centered around the development and testing of our prototype units. These activities require the use or storage of materials which are, or in the future may be, classified as hazardous products or pollutants under federal and state laws governing the discharge or disposal of hazardous products or pollutants. We have undertaken a number of steps intended to ensure compliance with applicable federal and state environmental laws. Regulated materials used or generated by us are stored in above-ground segregated facilities and are disposed of through licensed petroleum product disposal companies. When appropriate, we also engage independent consultants from time to time to assist us in evaluating environmental risks. Our costs related to environmental compliance have been included as part of our general overhead, and we do not presently anticipate any material increase in expenditures relating to environmental compliance in the near future based upon our current level of operations.

Rules and regulations implementing federal, state and local laws relating to the environment will continue to affect our business, and we cannot predict what additional environmental legislation or regulations will be enacted or become effective in the future or how existing or future laws or regulations will be administered or interpreted with respect to products or activities to which they have not been applied previously. Compliance with more stringent laws or regulations, as well as more vigorous enforcement policies of regulatory agencies, could have a material adverse effect on our business.

Installation and operation of our units at customer sites may subject us to increased risk. We intend to address these risks by imposing contractual responsibility on third party users for maintaining necessary permits and complying with applicable environmental laws related to the operation of our units. However, these measures may not fully protect us against environmental risks. Furthermore, although we may be entitled to contractual indemnification from third parties for environmental compliance liabilities, this would not preclude direct liability by us to governmental agencies or third parties under applicable federal and state environmental laws. We are presently unable to predict the nature or amount of additional costs or liabilities which may arise in the future. However, future liabilities and costs could be material.

### **Employees**

As of March 18, 2011, we had 17 full-time employees.

## Executive Officers

The following table lists our executive officers, their ages, and positions:

<u>Name</u>	<u>Age (1)</u>	<u>Present Position</u>
Stanley W. Farmer	43	President, Chief Financial Officer, Treasurer and Corporate Secretary
M. Clay Chambers	64	Chief Operating Officer

(1) Age is as of March 18, 2011

## Business Experience of Executive Officers

*Stanley W. Farmer* was appointed as our President in December 2010 and has served as our Chief Financial Officer since June 2007. Mr. Farmer was also appointed as the Company's Treasurer and Corporate Secretary in March 2009. From June 2005 to June 2007, Mr. Farmer was an audit partner at Malone & Bailey, PC, a full service certified public accounting firm specializing in providing audit services to small public companies. From November 2004 to April 2005, Mr. Farmer was the Chief Financial Officer at Texas Energy Ventures, L.L.C., a wholesale and retail energy holding company. From May 2003 to November 2004, Mr. Farmer was an Assistant Controller at Reliant Energy Wholesale Group, a subsidiary of Reliant Energy, Inc., a provider of electricity and energy-related products to retail and wholesale customers. From April 2000 to May 2003, Mr. Farmer was a Senior Director at Enron Corp. in its accounting transaction support group. Mr. Farmer has also held management positions with a focus in the energy sector at Arthur Andersen LLP (May 1997 to April 2000) and KPMG LLP (January 1991 to May 1997). Mr. Farmer has a B.B.A in Accounting from Texas A&M University (College Station, Texas), is a certified public accountant (Texas) and is a member of the American Institute of Certified Public Accountants and the Texas Society of Certified Public Accountants.

*M. Clay Chambers* has served as our Chief Operating Officer since February 2008. From March 2003 to February 2008, Mr. Chambers worked for El Paso Corporation ("El Paso"), a large natural gas pipeline operator and natural gas producer, as a consultant advising on the sale of El Paso's chemical assets after the acquisition of Coastal Corporation by El Paso in 2001. Mr. Chambers has over 35 years experience in the refining and petrochemical industry, having begun his career with UOP, Inc. and having held senior management positions with Coastal Corporation and Texas City Refining. At Coastal Corporation he served as Vice President of Refining, Senior Vice President of International Project Development and Senior Vice President of Petroleum Coordination. Mr. Chambers had overall management responsibility for refineries located in Corpus Christi, Texas; Eagle Point, New Jersey; Mobile, Alabama; Wichita, Kansas and Aruba, with a total crude oil capacity of 538,000 barrels/day. He has extensive expertise regarding the full range of refinery and petrochemical processing units and has also held senior management positions in the product, crude oil supply and petroleum marketing areas. Mr. Chambers holds a professional degree in Chemical & Petroleum Refining Engineering from Colorado School of Mines and an MBA from the University of Houston.

## Other

The Company's internet address is [www.sulphco.com](http://www.sulphco.com). Our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports are available, without charge, on our website, as soon as reasonably practicable after they are filed with the U.S. Securities and Exchange Commission ("SEC"). Copies are also available without charge, from SulphCo, Inc., 4333 W. Sam Houston Pkwy N., Suite 190, Houston, TX 77043. Reports filed with the SEC may be viewed at [www.sec.gov](http://www.sec.gov) or obtained at the SEC Public Reference Room in Washington, D.C. Information regarding the operation of the Public Reference Room may be obtained by calling the SEC at 1-800-SEC-0330. References to our website addressed in this report are provided as a convenience and do not constitute, and should not be viewed as an incorporation by reference of the information contained on, or available through, the website. Therefore, such information should not be considered part of this report.

**Item 1A. Risk Factors.**

**We are a development stage company with a limited operating history, which makes it more difficult to predict whether we will be able to successfully commercialize our technology and implement our business plan. Our auditors have included a “going-concern” emphasis paragraph in their audit report.**

We are a development stage company with a limited operating history, and our principal technologies and products are not yet commercially proven. Accordingly, there is a limited operating history upon which to base an assumption that we will be able to successfully implement our business plan. In addition to this, our auditors have included a “going-concern” emphasis paragraph in their audit report relating to our financial statements as of December 31, 2010, indicating that as a result of significant recurring losses, substantial doubt exists about our ability to continue as a going concern.

**We will not have sufficient working capital in the future, and we may be unable to obtain additional capital, which could result in the curtailment, suspension or cessation of our business activity. If we obtain additional financing, you may suffer significant dilution.**

In the past we have financed our research and development activities primarily through debt and equity financings from third parties. We expect our existing capital resources will be sufficient to fund our cash requirements only into the early part of the third quarter of 2011 based upon projected levels of expenditures and anticipated needs. Accordingly, we expect that additional working capital will be required in the future.

The extent and timing of our future capital requirements will depend upon several factors, including:

- continued progress toward commercialization of our technologies;
- rate of progress and timing of product commercialization activities and arrangements; and
- our ability to establish and maintain collaborative arrangements with others for product development, commercialization, marketing, sales and manufacturing.

Accordingly, our capital requirements may vary materially from those currently planned, and we may require additional financing sooner than anticipated.

Sources of additional capital, other than from future revenues (for which we presently have no commitments) include proceeds from the exercise of warrants issued to the investors in the May 2008, January 2010 and February 2011 placements, funding through collaborative arrangements, licensing arrangements and debt and equity financings. We do not know whether additional financing will be available on commercially acceptable terms when needed. If we cannot raise funds on acceptable terms, we may not be able to successfully commercialize our technology, or respond to unanticipated requirements. If we are unable to secure such additional financing, we may have to curtail, suspend or cease all or a portion of our business activities. Further, if we issue equity securities, our shareholders may experience severe dilution of their ownership percentages, and the new equity securities may have rights, preferences or privileges senior to those of our common stock. We currently only have a minimal amount shares of common stock available to be issued since we have almost reached our limit of authorized shares in our charter. This will make it more difficult to complete future financings.

**We may be delisted from the NYSE Amex LLC resulting in a more limited market for our common stock.**

On June 30, 2010, we were notified of our failure to comply with the NYSE Amex LLC's (the "Exchange") continued listing standards under section 1003(a) (iii) of the Exchange's Company Guide because our stockholders' equity was less than \$6,000,000 and we have had losses from continuing operations and net losses in our five most recent fiscal years. The notice was based on a review by the Exchange of our publicly available information, including the Company's quarterly report on Form 10-Q for the quarter ended March 31, 2010, at which time the Company's stockholders' equity was approximately \$5.3 million. As of June 30, 2010, our stockholders' equity was approximately \$3.3 million resulting in our failure to comply with Section 1003(a)(ii) of the Company Guide because our stockholders' equity was less than \$4,000,000 and we had losses from continuing operations and net losses in three of our four most recent fiscal years. As of September 30, 2010, the Company's stockholders' equity was approximately \$1.7 million resulting in our failure to comply with Section 1003(a)(i) of the Company Guide because our stockholders' equity was less than \$2,000,000 and we had losses from continuing operations and net losses in two of our three most recent fiscal years. During the week ended July 30, 2010, we submitted to the Exchange a plan outlining our efforts to regain compliance with the Exchange's continued listing requirements. The plan consisted of several elements, but primarily focused on the sales of our products and services and raising additional equity capital. On September 20, 2010, the Company received notice from the Exchange indicating that the Exchange had accepted the Company's plan of compliance. In accepting the Company's plan, the Exchange granted the Company an extension until December 30, 2011 for the continued listing of the Company's common stock and for the Company to regain compliance with the Exchange's continued listing standards, subject to quarterly progress review by the Exchange. At the request of the Exchange, on December 28, 2010 and February 9, 2011, the Company submitted updates of the plan initially submitted to the Exchange in July 2010. If (i) our plan is not accepted, (ii) we do not make progress toward regaining compliance consistent with our plan, or (iii) we are not in compliance at the end of the plan period, then our shares of common stock may be delisted from the Exchange. If the Exchange delists our common stock, we anticipate that our common stock would be quoted on the OTC Bulletin Board or possibly the so-called "pink sheets." Even if our common stock is quoted on such systems, a delisting by the Exchange could harm our investors by reducing the liquidity and market price of our common stock. Additionally, a delisting could negatively affect us by reducing the number of investors willing to hold or acquire our common stock, which could negatively affect our ability to access public capital markets. If the Company is not listed on a national exchange and/or if its public float remains below \$75 million, it will be limited in its ability to file new shelf registration statements on Form S-3 and/or to fully use one or more registration statements on Form S-3 that have been filed with the SEC. Any such limitations may have a material adverse effect on the Company's ability to raise the capital needed to continue its operations.

**Our technologies are not fully developed, are commercially untested, and therefore, the successful development and commercialization of our technologies remain subject to significant uncertainty.**

Our activities, to date, have involved the research and development of our crude oil desulfurization and upgrading technologies and the construction of a test facility. We have not yet generated any material revenues since commencing these activities in January 1999. Commercial application of our technologies will require further investment, development and testing. We may be unable to complete the commercialization of our technologies on a timely basis, or at all.

Development and commercialization of a new technology, such as our Sonocracking™ process, is inherently subject to significant risks. Accordingly, we cannot assure that our technology will perform in a commercial scale setting as indicated in initial laboratory or small scale testing or that we will be able to successfully commercialize our technology. Introducing and enhancing a new technology involves numerous technical challenges, substantial financial and personnel resources, and often takes many years to complete. We cannot be certain that we will be successful at commercializing our technology on a timely basis, or in accordance with milestones, if at all. In addition, we cannot be certain that, once our processing unit is made operational in a commercial setting, the unit will perform as expected. Our technology is complex and, despite further vigorous testing and quality control procedures, may contain undetected errors. Any inability to timely deliver a commercially viable unit could have a negative effect on our business, revenues, financial condition and results of operations.

**We have a history of operating losses and have not generated material revenues to date, and we are unable to predict when or if we will generate material revenues on a sustained basis or achieve profitability.**

We have not generated any material revenues, and we have experienced significant operating losses in each period since we commenced our current line of business in January 1999. As of December 31, 2010, we had an accumulated deficit of approximately \$164.9 million. These losses are principally associated with the research and development of our Sonocracking™ units for desulfurization and upgrading of crude oil and other petroleum products, research and development of ultrasound technologies, development of pre-production prototypes and related marketing activity, and we expect to continue to incur expenses in the future for development, commercialization, sales and marketing activities related to the commercialization of our technology. We cannot predict when or to what extent our technology or resulting products will begin to produce revenues on a sustained basis, or whether we will ever reach profitability. If we are unable to achieve significant levels of revenue on a sustained basis, our losses will continue. If this occurs, we may be compelled to significantly curtail our business activities or suspend or cease our operations.

**Commercial activities by us in foreign countries could subject us to political and economic risks which could impair future potential sources of revenue or impose significant costs.**

We are currently pursuing business activities outside the U.S., including the Middle East, Austria, Europe, North America, and South America, and we expect to continue to do so in the future, either directly, or through partners, licensees or other third parties, in connection with the commercialization of our technologies. The transaction of business by us in a foreign country, either directly or through partners, licensees or other third parties, may subject us, either directly or indirectly, to a number of risks, depending upon the particular country. These risks may include, with respect to a particular foreign country:

- government activities that may result in the curtailment of contract rights;
- government activities that may restrict payments or limit the movement of funds outside the country;
- confiscation or nationalization of assets;
- confiscatory or other adverse foreign taxation regulations;
- acts of terrorism or other armed conflicts and civil unrest;
- currency fluctuations, devaluations and conversion restrictions; and
- trade restrictions or embargoes imposed by the U.S. or a foreign country.

Many of these risks may be particularly significant in some oil producing regions, such as the Middle East and South America.

**Our strategy for the development and commercialization of our technologies contemplates collaborations with third parties, making us dependent on them for our success.**

We do not possess all of the capabilities to fully commercialize our desulfurization and upgrading technologies on our own. Our success may depend upon partnerships and strategic alliances with third parties, such as our joint venture with FOT. Collaborative agreements involving the development or commercialization of technology such as ours generally pose such risks as:

- collaborators may not pursue further development or commercialization of products resulting from collaborations or may elect not to continue or renew research and development programs;
- collaborators may delay development activities, underfund development activities, stop or abandon development activities, repeat or conduct new testing or require changes to our technologies for testing;
- collaborators could independently develop, or develop with third parties, products that could compete with our future products;
- the terms of our agreements with collaborators may not be favorable to us;
- a collaborator may not commit enough resources, thereby delaying commercialization or limiting potential revenues from the commercialization of a product; and
- collaborations may be terminated by the collaborator for any number of reasons, including failure of the technologies or products to perform in line with the collaborator's objectives or expectations, and such termination could subject us to increased capital requirements if we elected to pursue further activities.

**We have very limited manufacturing, marketing and sales experience, which could result in delays to the implementation of our business plan.**

We have very limited manufacturing, marketing and product sales experience. We cannot ensure that contract manufacturing services will be available in sufficient capacity to supply our product needs on a timely basis. If we decide to build or acquire commercial scale manufacturing capabilities, we will require additional management and technical personnel and additional capital.

**We rely on third parties to provide certain components for our products. If our vendors fail to deliver their products in a reliable, timely and cost-efficient manner, our business will suffer.**

We currently depend on relationships with third parties such as contract manufacturing companies and suppliers of components critical for the product we are developing in our business. If these providers do not produce these products on a timely basis, if the products do not meet our specifications and quality control standards, or if the products are otherwise flawed, we may have to delay product delivery, or recall or replace unacceptable products. In addition, such failures could damage our reputation and could adversely affect our operating results. As a result, we could lose potential customers and any revenues that we may have at that time may decline dramatically.

**Our business is subject to the risk of supplier concentration.**

We depend on a limited number of third party suppliers and vendors for the manufacturing and development of our Sonocracker™ units. As a result of this concentration in our supply chain, our business and operations would be negatively affected if any of our key suppliers were to experience significant disruption affecting the price, quality, availability or timely delivery of their products. The partial or complete loss of one of these suppliers, or a significant adverse change in our relationship with any of these suppliers, could have a material adverse effect on our business, results of operations and financial condition.

**We are highly dependent on our key personnel to manage our business, and because of competition for qualified personnel, we may not be able to recruit or retain necessary personnel. The loss of key personnel or the inability to retain new personnel could delay the implementation of our business plan.**

Our success depends to a significant degree on the continued services of our senior management and other key employees, and our ability to attract and retain highly skilled and experienced scientific, technical, managerial, sales and marketing personnel. We cannot assure you that we will be successful in recruiting new personnel or in retaining existing personnel. None of our senior management or key personnel have long term employment agreements with us. We do not maintain key person insurance on any members of our management team or other personnel. The loss of one or more key employees or our inability to attract additional qualified employees could delay the implementation of our business plan, which in turn could have a material adverse effect on our business, results of operations and financial condition. In addition, we may experience increased compensation costs in order to attract and retain skilled employees.

**Because the market for products utilizing our technologies is still developing and is highly competitive, we may not be able to compete successfully in the highly competitive and evolving desulfurization and upgrading market.**

The market for products utilizing our technologies is still developing and there can be no assurance that our products will ever achieve market acceptance. Because we presently have no customers for our business, we must convince petroleum producers, refiners and distributors to utilize our products or license our technology. To the extent we do not achieve market penetration, it will be difficult for us to generate meaningful revenue or to achieve profitability.

**The success of our business is highly dependent on our patents and other proprietary intellectual property, and we cannot assure you that we will be able to protect and enforce our patents and other intellectual property.**

Our commercial success will depend to a large degree on our ability to protect and maintain our proprietary technology and know-how and to obtain and enforce patents on our technology. We rely primarily on a combination of patent, copyright, trademark and trade secrets laws to protect our intellectual property. Although we have filed multiple patent applications for our technology, and we have eight issued patents in the U.S., our patent position is subject to complex factual and legal issues that may give rise to uncertainty as to the validity, scope and enforceability of a particular patent. Accordingly, we cannot assure you that any patents will be issued pursuant to our current or future patent applications or that patents issued pursuant to such applications will not be invalidated, circumvented or challenged. Also, we cannot ensure you that the rights granted under any such patents will provide the competitive advantages we anticipate or be adequate to safeguard and maintain our proprietary rights. In addition, effective patent, trademark, copyright and trade secret protection may be unavailable, limited or not applied for in certain foreign countries. Moreover, we cannot ensure you that third parties will not infringe, design around, or improve upon our proprietary technology.

We also seek to protect our proprietary intellectual property, including intellectual property that may not be patented or patentable, in part by utilizing confidentiality agreements and, if applicable, inventor's rights agreements with our employees and third parties. We cannot assure you that these agreements will not be breached, that we will have adequate remedies for any breach or that such persons will not assert rights to intellectual property arising out of these relationships.

**We are a new entrant in our business and we face significant competition.**

We are a new entrant in the market for development and sale of upgrading and sulfur reduction technology to the oil industry. We face well-established and well-funded competition from a number of sources. Our competitors in this area include manufacturers of conventional refinery desulfurization equipment and major integrated oil companies and oil refineries. Most of these entities have substantially greater research and development capabilities and financial, scientific, manufacturing, marketing, sales and service resources than we do.

Because of their experience and greater research and development capabilities, our competitors might succeed in developing and commercializing competing technologies or products which would render our technologies or products obsolete or non-competitive.

**Regulatory developments could have adverse consequences for our business.**

The regulatory environment that pertains to our business is complex, uncertain and changing rapidly. Although we anticipate that existing and proposed governmental mandates regulating the sulfur content of petroleum products will continue to provide an impetus for customers to utilize our Sonocracking™ technology for desulfurization, it is possible that the application of existing environmental legislation or regulations or the introduction of new legislation or regulations could substantially impact our ability to launch and promote our proprietary technologies, which could in turn negatively impact our business.

Rules and regulations implementing federal, state and local laws relating to the environment will continue to affect our business, including laws and regulations which may apply to the use and operation of our Sonocracker™ units, and we cannot predict what additional environmental legislation or regulations will be enacted or become effective in the future or how existing or future laws or regulations will be administered or interpreted with respect to products or activities to which they have not been applied previously. Compliance with more stringent laws or regulations, as well as more vigorous enforcement policies of regulatory agencies, could have a materially adverse effect on our business.

To date, environmental regulation has not had a material adverse effect on our business, which is presently in the development stage. However, future activities may subject us to increased risk as we seek to commercialize our units by reason of the installation and operation of these units at customer sites. We intend to address these risks by imposing contractual responsibility, whenever practicable, on third party users for maintaining necessary permits and complying with applicable environmental laws governing or related to the operation of our units. However, these measures may not fully protect us against environmental risks. Furthermore, although we may be entitled to contractual indemnification from third parties for environmental compliance liabilities, this would not preclude direct liability by us to governmental agencies or third parties under applicable federal and state environmental laws. We are presently unable to predict the nature or amount of additional costs or liabilities which may arise in the future related to environmental regulation. However, such future liabilities and costs could be material.

**We may be sued for product liability, which could result in liabilities which exceed our available assets.**

We may be held liable if any product we develop, or any product which is made with the use of any of our technologies, causes injury or is found otherwise unsuitable during product testing, manufacturing, marketing, sale or use. We currently have no product liability insurance. When we attempt to obtain product liability insurance, this insurance may be prohibitively expensive, or may not fully cover our potential liabilities. Inability to obtain sufficient insurance coverage at an acceptable cost or otherwise to protect against potential product liability claims could inhibit the commercialization of products developed by us. If we are sued for any injury caused by our products, our liability could exceed our available assets.

**We are the defendant in several lawsuits, in which an adverse judgment against us could result in liabilities which exceed our available assets.**

Details of the current status of outstanding litigation involving the Company are available herein, under “Item 3. Legal Proceedings.” An adverse judgment in any of these cases could result in material harm to our business or result in liabilities that exceed our available assets.

**Our stock price is volatile, which increases the risk of an investment in our common stock.**

The trading price for our common stock has been volatile, ranging from a sales price of \$0.14 in 2010, to a sales price of over \$19.00 per share in 2006. The price has changed dramatically over short periods with decreases of more than 50% and increases of more than 100% percent in a single day. An investment in our stock is subject to such volatility and, consequently, is subject to significant risk.

**We may have difficulty managing our growth.**

We expect to experience significant growth if we are successful in our efforts to rollout our Sonocracking™ technology. This growth exposes us to increased competition, greater operating, marketing and support costs and other risks associated with entry into new markets and the development of new products, and could place a strain on our operational, human and financial resources. To manage growth effectively, we must:

- attract and retain qualified personnel;
- upgrade and expand our infrastructure so that it matches our level of activity;
- manage expansion into additional geographic areas; and
- continue to enhance and refine our operating and financial systems and managerial controls and procedures.

If we do not effectively manage our growth, we will not be successful in executing our business plan, which could materially adversely affect our business, results of operations and financial condition.

**Item 1B. Unresolved Staff Comments.**

None.

**Item 2. Properties.**

Since July 2007, our executive offices and primary facilities have been located at 4333 W. Sam Houston Pkwy N., Suite 190, Houston, Texas 77043 in a leased facility consisting of approximately 12,000 square feet. In October 2009, the Company amended the original lease agreement, acquiring approximately 12,000 square feet of additional warehouse and office space located at 11335 Clay Road, Suite 160, Houston, Texas. The lease for these spaces will expire mid-year 2013.

**Item 3. Legal Proceedings.**

There are various claims and lawsuits pending against the Company arising in the ordinary course of the Company's business. Although the amount of liability, if any, against the Company is not reasonably estimable, the Company is of the opinion that these claims and lawsuits will not materially affect the Company's financial position. In the past, the Company has expended significant resources for its legal defense. In the future, the Company will devote resources to its legal defense as necessary.

The following paragraphs set forth the status of litigation and other contingencies as of December 31, 2010.

### Clean Fuels Litigation

In *Clean Fuels Technology v. Rudolf W. Gunnerman, Peter Gunnerman, RWG, Inc. and SulphCo, Inc.*, Case No. CV05-01346 (Second Judicial District, County of Washoe) the Company, Rudolf W. Gunnerman, Peter Gunnerman, and RWG, Inc., were named as defendants in a legal action commenced in Reno, Nevada (the "Clean Fuels Litigation"). The plaintiff, Clean Fuels Technology later assigned its claims in the lawsuit to EcoEnergy Solutions, Inc., which entity was substituted as the plaintiff. In general, the plaintiff's claims related to ownership of the "sulfur removal technology" originally developed by Professor Teh Fu Yen and Rudolf W. Gunnerman with financial assistance provided by Rudolf W. Gunnerman, and subsequently assigned to the Company. On September 14, 2007, after a jury trial and extensive post-trial proceedings, the trial court entered final judgment against the plaintiff EcoEnergy Solutions, Inc. on all of its claims. As per the final judgment, all of the plaintiff's claims were resolved against the plaintiff and were dismissed with prejudice. In addition, the trial court entered judgment in favor of the Company and against the plaintiff for reimbursement of legal fees and costs of approximately \$124,000, with post-judgment interest. The plaintiff appealed the judgment on October 5, 2007. On August 3, 2009, the Nevada Supreme Court affirmed the court's Order and judgment in its entirety. The Nevada Supreme Court then denied EcoEnergy's request for a rehearing on September 25, 2009 and further denied EcoEnergy's Petition for En Banc Reconsideration on November 17, 2009. On December 15, 2009, the Nevada Supreme Court restored jurisdiction to the district court for any post-appeal issues. Since that time, the Company received legal fees, costs, and interest awarded to it under the judgment from EcoEnergy. The Company then moved the district court for an award of legal fees and costs incurred on appeal. The district court granted the award and the Company received approximately \$120,000 in March 2010 for costs incurred in connection with the appeal bringing this matter to a final conclusion.

### Talisman Litigation

In *Talisman Capital Talon Fund, Ltd. v. Rudolf W. Gunnerman and SulphCo, Inc.*, Case No. 05-CV-N-0354-BES-RAM, the Company and Rudolf W. Gunnerman were named as defendants in a legal action commenced in federal court in Reno, Nevada. The plaintiff's claims relate to the Company's ownership and rights to develop its "sulfur removal technology." The Company regards these claims as without merit. Following a trial, on May 14, 2009, the court entered a judgment in favor of the Company and dismissed all claims with prejudice. On July 21, 2010, the Ninth Circuit Court of Appeals affirmed the trial court's judgment. The time frame within which the plaintiff had to file an appeal to the Ninth Circuit Court's affirmative ruling passed without any appeal being filed by the plaintiff resulting in this matter becoming final and non-appealable. No liability has been accrued relative to this action.

### Hendrickson Derivative Litigation

On January 26, 2007, Thomas Hendrickson filed a shareholder derivative claim against certain current and former officers and directors of the Company in the Second Judicial District Court of the State of Nevada, in and for the County of Washoe. The case was known as *Thomas Hendrickson, Derivatively on Behalf of SulphCo, Inc. v. Rudolf W. Gunnerman, Peter W. Gunnerman, Loren J. Kalmøn, Richard L. Masica, Robert Henri Charles Van Maasdijk, Hannes Farnleitner, Michael T. Heffner, Edward E. Urquhart, Lawrence G. Schafran, Alan L. Austin, Jr., Raad Alkadiri and Christoph Henkel*, Case No. CV07-00187, Dept. No. B6. The complaint alleged, among other things, that the defendants breached their fiduciary duty to the Company by failing to act in good faith and diligence in the administration of the affairs of the Company and in the use and preservation of its property and assets, including the Company's credibility and reputation. On April 12, 2007 the Company and individual defendants filed a motion to dismiss, based upon the plaintiff's failure to make a demand upon the Board of Directors and failure to state a claim. On July 3, 2007, the parties filed a Stipulation of Voluntary Dismissal Without Prejudice (the "Stipulation"). The Stipulation provided that in connection with the dismissal of this action each of the parties will bear their own costs and attorney fees and thereby waive their rights, if any, to seek costs and attorney fees from the opposing party. Further, neither the plaintiff nor his counsel received any consideration for the dismissal of this action.

In September of 2007, the Company's Board of Directors received a demand letter (the "Hendrickson Demand Letter") from Mr. Hendrickson's attorney reasserting the allegations contained in the original derivative claim and requesting that the Board of Directors conduct an investigation of these matters in response thereto. In response to the Hendrickson Demand Letter, the Company's Board of Directors formed a committee comprised of three independent directors (the "Committee") to evaluate the Hendrickson Demand Letter and to determine what action, if any, should be taken. The Committee retained independent counsel to advise it.

On September 2, 2008, the Company's Board of Directors held a special meeting for the purpose of hearing and considering the Committee's report and recommendation. At that meeting, the Committee reported on its investigation and presented the Committee's unanimous recommendation that no actions be brought by the Company based upon the matters identified in the Hendrickson Demand Letter. The Board of Directors unanimously adopted the Committee's recommendation. SulphCo communicated this conclusion to Mr. Hendrickson's counsel in mid-September 2008.

On November 6, 2008, Mr. Hendrickson re-filed the shareholder derivative claim in the 127th Judicial District Court of Harris County, Texas (the "District Court"). The case is known as Thomas Hendrickson, Derivatively on Behalf of SulphCo, Inc. v. Rudolf W. Gunnerman, Peter W. Gunnerman, Loren J. Kalmes, Richard L. Masica, Robert Henri Charles Van Maasdijk, Hannes Farnleitner, Michael T. Heffner, Edward E. Urquhart, Lawrence G. Schafran, Alan L. Austin, Jr., Raad Alkadiri and Christoph Henkel, Case No. 200866743 (the "Texas Derivative Claim"). The Company responded to this litigation by moving to dismiss and the individual defendants responded by moving to dismiss for lack of personal jurisdiction.

On June 30, 2010, the District Court preliminarily approved a proposed settlement regarding the Texas Derivative Claim. The District Court held a final settlement hearing on August 13, 2010, at which time the settlement became final. The final settlement, among other actions, resulted in the dismissal of the claims asserted in the Texas Derivative Claim with prejudice. The terms of the final settlement included an award of \$300,000, to the plaintiff's counsel for fees and reimbursement of expenses. Since the Company has previously met its director and officer liability insurance policy deductible, the monetary award made in connection with the settlement was borne by the director and officer liability insurance policy and therefore did not have any impact on the financial condition of the Company. The final settlement became non-appealable 40 days after the date the final settlement was entered by the District Court and the payment of the award of \$300,000 to the plaintiff's counsel for fees and reimbursement of expenses was made by the insurance company shortly thereafter. No relief is sought against the Company and no liability has been accrued relative to this action.

#### NYSE Amex LLC Listing Standards Deficiency

On June 30, 2010, we were notified of our failure to comply with the Exchange's continued listing standards under section 1003 of the Company Guide. Specifically, the Exchange noted our failure to comply with section 1003(a) (iii) of the Exchange's Company Guide because our stockholders' equity was less than \$6,000,000 and we had losses from continuing operations and net losses in our five most recent fiscal years. The notice was based on a review by the Exchange of our publicly available information, including the Company's quarterly report on Form 10-Q for the quarter ended March 31, 2010, at which time the Company's stockholders' equity was approximately \$5.3 million. As of June 30, 2010, the Company's stockholders' equity was approximately \$3.3 million resulting in our failure to comply with Section 1003(a)(ii) of the Company Guide because our stockholders' equity was less than \$4,000,000 and we had losses from continuing operations and net losses in three of our four most recent fiscal years. As of September 30, 2010, the Company's stockholders' equity was approximately \$1.7 million resulting in our failure to comply with Section 1003(a)(i) of the Company Guide because our stockholders' equity was less than \$2,000,000 and we had losses from continuing operations and net losses in two of our three most recent fiscal years. During the week ended July 30, 2010, we submitted to the Exchange a plan outlining our efforts to regain compliance with the Exchange's continued listing requirements. The plan consisted of several elements, but primarily focused on the sales of our products and services and raising additional equity capital. On September 20, 2010, the Company received notice from the Exchange indicating that the Exchange had accepted the Company's plan of compliance. In accepting the Company's plan, the Exchange granted the Company an extension until December 30, 2011 for the continued listing of the Company's common stock and for the Company to regain compliance with the Exchange's continued listing standards, subject to quarterly progress review by the Exchange. At the request of the Exchange, on December 28, 2010 and February 9, 2011, the Company submitted updates of the plan initially submitted to the Exchange in July 2010. If (i) our plan is not accepted, (ii) we do not make progress toward compliance consistent with the plan, or (iii) we are not in compliance at the end of the plan period, then our shares of common stock may be subject to delisting proceedings by the Exchange. If the Exchange delists our common stock, we anticipate that our common stock would be quoted on the OTC Bulletin Board or possibly the so-called "pink sheets." Even if our common stock is quoted on such systems, a delisting by the Exchange could harm our investors by reducing the liquidity and market price of our common stock. Additionally, a delisting could negatively affect us by reducing the number of investors willing to hold or acquire our common stock, which could negatively affect our ability to access public capital markets. If the Company is not listed on a national exchange and/or if its public float remains below \$75 million, it will be limited in its ability to file new shelf registration statements on Form S-3 and/or to fully use one or more registration statements on Form S-3 that have been filed with the SEC. Any such limitations may have a material adverse effect on the Company's ability to raise the capital needed to continue its operations.

**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 trades on the NYSE Amex under the symbol "SUF."

As noted in "Item 1A. – Risk Factors" elsewhere in this report, the Company is not currently in compliance with the Exchange's continued listing standards under section 1003 of the Company Guide. If the Exchange delists our common stock, we anticipate that our common stock would be quoted on the OTC Bulletin Board or possibly the so-called "pink sheets." Even if our common stock is quoted on such systems, a delisting by the Exchange could harm our investors by reducing the liquidity and market price of our common stock. Additionally, a delisting could negatively affect us by reducing the number of investors willing to hold or acquire our common stock, which could negatively affect our ability to access public capital markets. If the Company is not listed on a national exchange and/or if its public float remains below \$75 million, it will be limited in its ability to file new shelf registration statements on Form S-3 and/or to fully use one or more registration statements on Form S-3 that have been filed with the SEC. Any such limitations may have a material adverse effect on the Company's ability to raise the capital needed to continue its operations.

The following table sets forth the high and low sale prices for our common stock for each of the quarterly periods indicated.

	<u>High</u>	<u>Low</u>
<i>Fiscal 2010</i>		
First Quarter	\$ 0.94	\$ 0.29
Second Quarter	\$ 0.48	\$ 0.25
Third Quarter	\$ 0.46	\$ 0.18
Fourth Quarter	\$ 0.75	\$ 0.14
<i>Fiscal 2009</i>		
First Quarter	\$ 1.49	\$ 0.40
Second Quarter	\$ 1.77	\$ 0.80
Third Quarter	\$ 2.18	\$ 0.76
Fourth Quarter	\$ 1.45	\$ 0.61

There were 240 holders of record of our common stock on March 15, 2011. This number does not include stockholders whose shares were held in a "nominee" or "street" name.

## Dividends

We have not declared or paid any cash dividends on our common stock and presently intend to retain our future earnings to fund the development and growth of our business and, therefore, do not anticipate paying any cash dividends in the foreseeable future.

## Table of Securities Authorized for Issuance under Equity Compensation Plans at the End of 2010

The following table presents information regarding our securities which are authorized for issuance under all of our compensation plans as of December 31, 2010.

<u>Plan Category</u>	<u>Number of Securities to be Issued upon Exercise of Outstanding Options, Warrants and rights</u>	<u>Weighted-average Exercise Price of Outstanding Options, Warrants and Rights</u>	<u>Number of Securities Remaining Available for Future Issuance under Equity Compensation Plans (Excluding Securities Reflected at Left)</u>
Equity Compensation Plans Approved by Security Holders	5,836,385	\$ 2.15	3,388,615
Equity Compensation Plans Not Approved by Security Holders	50,000	\$ 2.47	(1)

(1) Future grants are within the discretion of our Board of Directors of directors and, therefore, cannot be determined at this time.

Under compensation plans approved by our stockholders, 1,769,690 shares are issuable in connection with outstanding options granted pursuant to the SulphCo, Inc. 2006 Stock Option Plan approved by the Company's stockholders in 2006 and 4,066,695 shares are issuable in connection with outstanding options granted pursuant to the SulphCo, Inc. 2008 Omnibus Long-Term Incentive Plan (the "2008 Plan") approved by the Company's stockholders in 2008. At the 2009 Annual Meeting of Stockholders, the Company's stockholders approved an amendment to the 2008 Plan to increase the number of shares available for issuance by 5,000,000 shares from 2,250,000 to 7,250,000.

Under compensation plans not approved by our stockholders, 50,000 shares relate to warrants granted in connection with the Development and Manufacturing Agreement between the Company and MWH dated as of June 28, 2008, wherein the Company agreed to issue warrants to purchase 50,000 shares of the Company's common stock to MWH, at an exercise price of \$2.47 per share. One half of these warrants vest six-months from the grant date and the remaining half of the warrants vest one-year from the grant date.

**Item 6. Selected Financial Data.****Comparative Financial Data**

The table below sets forth a comparison of the financial data specified for the latest five years. The loss from operations for the years ended December 31, 2010, 2009 and 2008 includes research and development expenses totaling approximately \$2.2 million, \$3.7 million and \$4.1 million, respectively.

	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>	<u>2006</u>
Operating revenue	-	-	-	-	-
Loss from operations	\$(7,571,341)	\$(11,140,425)	\$(20,087,757)	\$(19,156,217)	\$(39,131,016)
Loss per share: basic and diluted	\$ (0.08)	\$ (0.13)	\$ (0.29)	\$ (0.64)	\$ (0.55)
Total assets at year end	\$ 1,661,238	\$ 3,617,550	\$ 19,656,883	\$ 9,102,041	\$ 7,294,459
Long-term obligations at year end	-	-	-	\$ 3,147,860	-
Cash dividends declared per share	-	-	-	-	-

## **Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operation.**

### **Liquidity and Capital Resources**

As of December 31, 2010, we had approximately \$0.3 million in available cash reserves. Taking this amount together with approximately \$1.85 million of net cash proceeds from the equity financing completed in February 2011, and our forecasted monthly cash burn rate, we anticipate that our cash reserves will be sufficient to fund our cash requirements only into the early part of the third quarter of 2011. Historically, we have been able to raise capital to continue with our research and development and it is likely that we will need to raise additional funds before we can generate enough revenue to become profitable. The Company is evaluating various financing alternatives that may include, among other things, secured convertible debt and additional equity issuances or any combination thereof, the proceeds of which would be used to fund future research and development activity. There can be no assurance that the Company will be successful in raising such financing. If the Company is unable to raise additional financing, its ability to continue to operate will be significantly curtailed. In addition, if the Company is not listed on a national exchange and/or if its public float remains below \$75 million, it will be limited in its ability to file new shelf registration statements on Form S-3 and/or to fully use one or more registration statements on Form S-3 that have been filed with the SEC. Any such limitations may have a material adverse effect on the Company's ability to raise the funding needed to continue its operations. In addition, the Company has only a minimal amount of shares of common stock available to be issued under its authorized shares as set forth in its charter. Accordingly, the Company will need to seek shareholder approval to increase its authorized shares of common stock. Until this situation is addressed, the Company's ability to raise financing will be negatively impacted.

As discussed below, the Company continues to be cash constrained and unless new financing is obtained in the immediate future, the Company's operations and efforts to continue to develop our technology will be severely curtailed and possibly terminated. The Company continues to work to raise sufficient funding, however, there can be no assurances that such a financing will be available, or if it is available, that it can be obtained on terms that are deemed to be acceptable to the Company. Such funding, if obtained, may take the form of secured convertible debt, equity or any combination thereof.

On June 30, 2010, we were notified of our failure to comply with the Exchange's continued listing standards under section 1003 of the Company Guide. Specifically, the Exchange noted our failure to comply with section 1003(a) (iii) of the Exchange's Company Guide because our stockholders' equity was less than \$6,000,000 and we had losses from continuing operations and net losses in our five most recent fiscal years. The notice was based on a review by the Exchange of our publicly available information, including the Company's quarterly report on Form 10-Q for the quarter ended March 31, 2010, at which time the Company's stockholders' equity was approximately \$5.3 million. As of June 30, 2010, the Company's stockholders' equity was approximately \$3.3 million resulting in our failure to comply with Section 1003(a)(ii) of the Company Guide because our stockholders' equity was less than \$4,000,000 and we had losses from continuing operations and net losses in three of our four most recent fiscal years. As of September 30, 2010, the Company's stockholders' equity was approximately \$1.7 million resulting in our failure to comply with Section 1003(a)(i) of the Company Guide because our stockholders' equity was less than \$2,000,000 and we had losses from continuing operations and net losses in two of our three most recent fiscal years. During the week ended July 30, 2010, we submitted to the Exchange a plan outlining our efforts to regain compliance with the Exchange's continued listing requirements. The plan consisted of several elements, but primarily focused on the sales of our products and services and raising additional equity capital. On September 20, 2010, the Company received notice from the Exchange indicating that the Exchange had accepted the Company's plan of compliance. In accepting the Company's plan, the Exchange granted the Company an extension until December 30, 2011 for the continued listing of the Company's common stock and for the Company to regain compliance with the Exchange's continued listing standards, subject to quarterly progress review by the Exchange. At the request of the Exchange, on December 28, 2010 and February 9, 2011, the Company submitted updates of the plan initially submitted to the Exchange in July 2010. If (i) our plan is not accepted, (ii) we do not make progress toward compliance consistent with the plan, or (iii) we are not in compliance at the end of the plan period, then our shares of common stock may be subject to delisting proceedings by the Exchange.

### February 2011 Equity Financing

On February 4, 2011, the Company completed the sale of 13,333,334 equity units at a price of \$0.15 per unit for aggregate gross proceeds to the Company of approximately \$2.0 million. Each equity unit consists of (i) one share of common stock, (ii) a warrant to purchase approximately 0.45 shares of SulphCo common stock at a price of \$0.20 with a term of five years and (iii) a warrant to purchase approximately 0.24 shares of SulphCo common stock at a price \$0.20 with a term of 66 months but not exercisable until 181 days after the closing date of the transaction. In addition, the Company agreed to amend and re-issue warrants to purchase 2,745,098 shares of SulphCo common stock currently held by one of the investors. The re-issued warrants – equal in number to the original warrants – will allow the holder to purchase shares of SulphCo common stock at a price of \$0.20 per share with a term of 54 months. The re-issued warrants are not exercisable until 181 days after the closing date of the transaction. The shares of common stock and shares of common stock issuable upon the exercise of the warrants that comprise the equity units and the re-issued warrants are registered on a shelf registration statement on Form S-3 declared effective by the SEC on October 20, 2010. Net proceeds to the Company from this transaction were approximately \$1.85 million.

### 2010 Capital Activities

In January 2010, the Company completed the sale of 11,764,712 equity units at a price of \$0.51 per unit pursuant to the terms of a Placement Agency Agreement dated January 25, 2010, resulting in gross proceeds to the Company of approximately \$6.0 million before transaction costs. Each equity unit consists of (i) one share of common stock, (ii) a 2-year warrant to purchase one half of a share of common stock at an exercise price of \$0.70, and (iii) a 5-year warrant to purchase one half share of a share of common stock at an exercise price of \$1.00. The shares of common stock and shares of common stock issuable upon the exercise of the warrants that comprise the equity units are registered on a shelf registration statement on Form S-3 declared effective by the SEC on September 4, 2007. Net proceeds to the Company from this transaction were approximately \$5.4 million.

### 2009 Capital Activities

On July 29, 2009, the Company prepaid in cash the full \$4.7 million outstanding principal balance of the convertible notes payable and all accrued but unpaid interest thereon.

### 2008 Capital Activities

During the quarter ended June 30, 2008, the Company completed two equity transactions. The first involved the sale of 6,818,750 shares of its common stock at a price of \$3.20 per share pursuant to the terms of a Securities Purchase Agreement dated May 27, 2008, resulting in net proceeds to the Company of approximately \$20.3 million before transaction costs. The shares are registered on a shelf registration statement on Form S-3 declared effective by the SEC on September 4, 2007. The second involved the exercise by investors of warrants to acquire approximately 1.9 million shares of the Company's common stock at an exercise price of \$2.68 per share resulting in net proceeds to the Company of approximately \$5.2 million. Between these two transactions, the Company raised net proceeds totaling approximately \$25.5 million.

During the quarter ended June 30, 2008, the Company entered into an equity line of credit with Azimuth Opportunity Ltd. ("Azimuth") pursuant to a Common Stock Purchase Agreement dated April 30, 2008. Subject to the conditions set forth in that agreement, Azimuth is committed to purchase up to \$60,000,000 of the Company's common stock pursuant to draw down notices that the Company may give to Azimuth from time to time at the Company's discretion until November 1, 2009. The price of shares sold is determined by reference to the volume weighted average price of the Company's common stock during a ten trading day pricing period at the time of each draw down notice, less a small discount.

### Late Registration Statement Penalty

As of December 31, 2010 and 2009, we were obligated to pay approximately \$0.4 million and \$0.4 million, respectively, in the aggregate for the penalty and accrued interest, to investors in the 2004 private placements for late registration fees and interest due to the fact that the registration statement covering the private placement shares was not declared effective by the SEC by the time required by the investor agreements. Since the fourth quarter of 2008, approximately 74% of the investors in the 2004 private placements have tendered payment demands to the Company.

### Future Capital Requirements

The extent and timing of our future capital requirements will depend primarily upon the rate of our progress in the development and commercialization of our technologies and the timing of future customer orders.

As of December 31, 2010, we had an accumulated deficit of approximately \$164.9 million and we incurred net losses of approximately \$7.6 million and \$12.0 million for the years ended December 31, 2010 and 2009, respectively. These losses are principally associated with non-cash stock compensation expense, legal defense costs and ongoing research and development of our Sonocracking™ technology, including the development of prototypes, and related marketing activity. Although we expect to continue to incur similar expenses in the future, such expenditures will not include major construction projects until commercialization of our Sonocracking™ technology.

Operation and maintenance of the Fujairah facility is the responsibility of FOT and SulphCo is responsible for contributing its Sonocracking™ units. The Memorandum of Association of Fujairah Oil Technology, which defines certain rights of the joint venture partners, calls for profits and losses to be shared 50/50, with profits being distributed to the partners, subject to a 10% reserve for legal expenses which may be waived by the partners. SulphCo's 50% share of distributions made by the joint venture to SulphCo will also be subject to other costs and expenses incurred directly by SulphCo from time to time.

To date, we have generated no material revenues from our business operations. We are unable to predict when or if we will be able to generate future revenues from commercial activities or the amounts expected from such activities. These revenue streams may be generated by us or in conjunction with collaborative partners or third party licensing arrangements, and may include provisions for one-time, lump sum payments in addition to ongoing royalty payments or other revenue sharing arrangements. We presently have no binding commitments for any such revenues. Future revenues and profits from FOT are dependent upon the successful implementation of our Sonocracking™ technology.

Other possible sources of additional capital include the exercise of the remaining warrants issued to investors in conjunction with previous financing transactions, future collaborative arrangements, licensing arrangements and debt and equity financings. We do not know whether additional financing will be available on commercially acceptable terms when needed. If we cannot raise funds on acceptable terms when needed, we may not be able to successfully commercialize our technologies, take advantage of future opportunities or respond to unanticipated requirements. If we are unable to secure such additional financing when needed, we may have to curtail or suspend all or a portion of our business activities. Further, if we issue additional equity securities, our shareholders may experience severe dilution of their ownership percentage.

## **Results of Operations**

As a development stage company, we have not generated any material revenues since we commenced our current line of business in 1999.

### **Research and Development Expenses**

During 2010, we incurred approximately \$2.2 million in expenses related to research and development of our Sonocracking™ technology. This compares to approximately \$3.4 million and \$3.7 million incurred in 2009 and 2008, respectively.

During 2010, 2009 and 2008, we paid approximately \$1.0 million, \$1.2 million and \$0.7 million, respectively, to our engineers and other research and development employees as wages and related benefits and for design and testing of our Sonocracker™ units, while approximately \$0.3 million, \$0.6 million and \$2.0 million respectively, was incurred for the procurement of control panels, probes, centrifuges, and generators related to the ongoing research and development of our units. The balance of our research and development costs relate to recurring monthly expenses for laboratory supplies and the maintenance of our facilities.

We expect that our research and development expenses will moderate upon successful transition into generation of sustained revenue. Thereafter, research and development will continue as needed to enhance our technology.

### **Selling, General and Administrative Expenses**

During 2010, we incurred approximately \$5.4 million in selling, general and administrative expenses. This compares to approximately \$7.5 million and \$16.0 million during 2009 and 2008, respectively. Non-cash stock-based compensation included in selling, general and administrative expenses in 2010 was approximately \$0.3 million. This compares to \$1.3 million and \$5.2 million in 2009 and 2008, respectively.

During 2010, we incurred approximately \$0.5 million in legal fees. This compares to approximately \$0.8 million and \$3.9 million during 2009 and 2008, respectively. The decrease in legal fees in 2010 relative to 2009 and 2008 was primarily attributable to the resolution of outstanding litigation matters that gave rise to significant legal fees in 2009 and 2008. For additional discussion regarding legal matters see "Item 3. Legal Proceedings."

Consulting fees, payroll and related expenses were approximately \$2.2 million in 2010 which compares to approximately \$2.6 million and \$3.9 million during 2009 and 2008, respectively. This represents decreases of approximately \$0.4 million and \$1.3 million, respectively. The \$0.4 million and \$1.3 million decreases in 2010 and 2009, respectively are primarily attributable to the reduction in the number of outside consultants engaged during 2009 and 2008. Additional expenses recognized in 2008 related to a settlement agreement with a former consultant.

The remainder of the amounts incurred relate to normal recurring operating expenses such as depreciation, insurance, travel, lease expense, utilities, marketing, and investor relations.

### **Interest Expense**

Interest expense was approximately \$0.04 million in 2010. This compares to approximately \$0.9 million and \$1.2 million during 2009 and 2008, respectively. The decrease in 2010 and 2009 as compared to 2008 is due to the July 2009 prepayment in cash of the full \$4.7 million outstanding principal balance of the convertible notes payable.

### **Deemed Dividend**

For the years ended December 31, 2010, 2009 and 2008, the Company recognized total non-cash deemed dividends of approximately zero, zero, and \$4.1 million, respectively.

On March 12, 2007, the Company executed Amendment No. 1 to Securities Purchase Agreements and Warrants (“Amendment No. 1”) with certain warrant holders (the “Warrant Holders”) who had been issued warrants by the Company in 2004 (“2004 Warrants,” and holders of 2004 Warrants, “2004 Warrant Holders”) and in 2006 (“2006 Warrants,” and holders of 2006 Warrants, “2006 Warrant Holders”) that provided inducements to encourage the Warrant Holders to exercise their respective warrants. As consideration for Warrant Holders exercising their respective warrants, the Company agreed that it would:

- reduce the exercise price on warrants to acquire 4,000,000 shares of the Company’s common stock held by the 2006 Warrant Holders from \$6.805 per share to \$2.68 per share; and
- issue the Warrant Holders additional warrants, with an exercise price of \$2.68 per share, on a one to one basis for each existing warrant that was exercised including granting up to 1,952,068 warrants to the 2004 Warrant Holders and up to 4,000,000 warrants to the 2006 Warrant Holders.

As a result of the inducements included in Amendment No. 1 described above, during the quarter ended March 31, 2007, 1,952,068 warrants held by the 2004 Warrant Holders and 2,000,000 warrants held by the 2006 Warrant Holders were exercised resulting in the grant of 3,952,068 additional warrants (the “March 2007 Warrants”). As a result of the inducements, the Company recorded a non-cash deemed dividend of approximately \$11.5 million. The amount of the deemed dividend was estimated to be equal to the sum of the fair value of the inducements as the sum of (1) the incremental fair value conveyed to the 2006 Warrant Holders by the reduction of the exercise price of the 2006 Warrants determined as provided in paragraph 51 of SFAS 123R utilizing the Black-Scholes Valuation Model and (2) the fair value of the 3,952,068 March 2007 Warrants estimated using the Black-Scholes Valuation Model.

During the quarter ended June 30, 2007, 600,000 2006 Warrants held by the 2006 Warrant Holders were exercised resulting in the grant of 600,000 additional warrants. As a result, the Company recorded additional non-cash deemed dividends of approximately \$1.7 million that was estimated using the Black-Scholes Valuation Model.

During the quarter ended September 30, 2007, the remaining 1,400,000 warrants held by the 2006 Warrant Holders were exercised resulting in the grant of 1,400,000 additional warrants. As a result, the Company recorded additional non-cash deemed dividend of approximately \$3.9 million that was estimated using the Black-Scholes Valuation Model.

On November 28, 2007, the Company executed Amendment No. 2 to Securities Purchase Agreements and Warrants (“Amendment No. 2”) with certain of the Warrant Holders holding approximately 3.95 million of the then outstanding March 2007 Warrants wherein the Warrant Holders agreed to exercise up to 50% of their March 2007 Warrants. In exchange, SulphCo agreed to issue the Warrant Holders additional warrants (the “November 2007 Warrants”) on a one-to-one basis with an exercise price of \$7.00 per share and a term of three years. In addition, the Warrant Holders were granted an option to exercise the remaining 50% of their March 2007 Warrants on the later of April 15, 2008, or 30 days following the 2008 Annual Meeting of Stockholders in which SulphCo’s stockholders approve an increase of 10 million authorized common shares. If this option were exercised, then SulphCo would issue the Warrant Holders additional warrants on a one-to-one basis with an exercise price of \$7.00 per share and a term of three years. As a result of the inducement described above 1,976,570 of the March 2007 Warrants held by the Warrant Holders were exercised in November 2007 resulting in a grant of 1,976,750 additional warrants (the “November 2007 Warrants”). Based on its analysis, the Company concluded that a deemed dividend should be recorded to account for the fair value of the inducement that was transferred to the Warrant Holders computed as the fair value of the 1,976,750 November 2007 Warrants issued to the Warrant Holders. Based on the Black-Scholes valuation prepared for this transaction, the Company recognized a non-cash deemed dividend of approximately \$7.3 million.

In May 2008, 1,953,088 of the March 2007 Warrants held by the Warrant Holders were exercised during the quarter ended June 30, 2008, resulting in the grant of 1,953,088 additional warrants (the "May 2008 Warrants"). Based on its analysis, the Company concluded that a deemed dividend should be recorded to account for the fair value of the inducement that was transferred to the Warrant Holders computed as the fair value of the 1,953,088 May 2008 Warrants issued to the Warrant Holders. Based on the Black-Scholes valuation prepared for this transaction, the Company recognized a non-cash deemed dividend was approximately \$4.1 million.

### **Net Loss and Net Loss Attributable to Common Stockholders**

The difference between net loss and net loss attributable to common shareholders for the year ended December 31, 2008 is solely attributable to the deemed dividends recorded in that period.

### **Off-Balance Sheet Arrangements**

The Company has not entered into any transactions with unconsolidated entities whereby the Company has financial guarantees, subordinated retained interests, derivative instruments, or other contingent arrangements that expose the Company to material continuing risks, contingent liabilities, or any other obligation under a variable interest in an unconsolidated entity that provides financing, liquidity, market risk, or credit risk support to the Company.

### **Contractual Obligations**

	Payments due by period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Operating lease obligations	\$ 600,000	240,000	\$ 360,000	-	-

### **New Accounting Pronouncements, Significant Accounting Policies and Critical Accounting Estimates**

#### ***New Accounting Pronouncements and Significant Accounting Policies***

See Note 1 to our financial statements.

#### ***Critical Accounting Estimates***

We make a number of estimates and judgments in preparing our financial statements. These estimates can differ from actual results and have a significant impact on our recorded assets, liabilities, revenues and expenses and related disclosure of contingent assets and liabilities. We consider an estimate to be a critical accounting estimate if it requires a high level of subjectivity or judgment and a significant change in the estimate would have a material impact on our financial condition or results of operations. The Audit Committee of our Board of Directors reviews each critical accounting estimate with our senior management. Further discussion of these accounting policies and estimates is in the Notes to our financial statements.

#### ***Loss Contingencies***

We record loss contingencies when it is probable that a liability has been incurred and the amount can be reasonably estimated. We consider loss contingency estimates to be critical accounting estimates because they entail significant judgment regarding probabilities and ranges of exposure, and the ultimate outcome of the proceedings is unknown and could have a material adverse effect on our results of operations, financial condition and cash flows. See Note 11 to our financial statements for additional information.

### *Stock-Based Compensation*

In accordance with the Stock Compensation Topic of the FASB Accounting Standards Codification, the Company records stock-based compensation expense for all share-based payment arrangements, including stock options, warrants and restricted stock grants. The fair value of each option award granted is estimated on the date of grant using a Black-Scholes option valuation model. Expected volatilities are based on the historical volatility of the Company's stock. The expected term of options granted to employees is derived utilizing the simplified method which represents the period of time that options granted are expected to be outstanding. The Company utilizes the simplified method because it does not have historical exercise data which is sufficient to provide a reasonable basis to estimate the expected term. The Company expects to continue utilizing the simplified method to determine the expected term until such time as it accumulates historical exercise data that will provide a sufficient basis for the Company to begin estimating the expected term for option exercises. The risk-free rate for periods within the contractual life of the option is based on the U.S. Treasury yield curve at the time of grant.

### *Deferred Tax Assets, Valuation Allowances and Tax Liabilities*

We estimate (a) income taxes in the jurisdictions in which we operate, (b) net deferred tax assets and liabilities based on expected future taxes in the jurisdictions in which we operate, (c) valuation allowances for deferred tax assets and (d) uncertain income tax positions. These estimates are considered critical accounting estimates because they require the projection of future operating results (which is inherently imprecise) and judgments related to the ultimate determination of tax positions by taxing authorities. Also, these estimates depend on assumptions regarding our ability to generate future taxable income during the periods in which temporary differences are deductible. See Note 6 to our financial statements for additional information.

We assess our future ability to use federal, state and foreign net operating loss carry-forwards, capital loss carry-forwards and other deferred tax assets using the more-likely-than-not criteria. These assessments include an evaluation of our recent history of earnings and losses, future reversals of temporary differences and identification of other sources of future taxable income, including the identification of tax planning strategies in certain situations.

### **Item 7A. Quantitative and Qualitative Disclosures about Market Risk.**

We are exposed to market risks arising from changes in market rates and prices, including movements in foreign currency exchange rates and interest rates. On July 29, 2009, the Company made full cash payment of the approximately \$4.7 million outstanding variable rate debt that exposed the Company to the risk of increased interest expense.

### **Item 8. Financial Statements and Supplementary Data.**

Our audited financial statements as of December 31, 2010, 2009 and 2008 and for the years then ended are included at the end of this report following the signature page.

### **Item 9. Changes In and Disagreements With Accountants on Accounting and Financial Disclosures.**

None.

**Item 9A. Controls and Procedures.****Evaluation of Disclosure Controls and Procedures**

Our management, with the participation of the Company's principal executive officer and principal financial officer, has evaluated the effectiveness of the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "1934 Act")) as of December 31, 2010, the end of the period covered by this report. Based on this evaluation, our principal executive officer and principal financial officer concluded that, as of December 31, 2010, the Company's disclosure controls and procedures were effective.

**Management's Annual Report on Internal Control Over Financial Reporting**

The information required by this Item is incorporated by reference from "Management's Report on Internal Control Over Financial Reporting" on page F-1.

**Changes in Internal Control Over Financial Reporting**

In connection with the evaluation described above, we identified no change in our internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the 1934 Act) during our fiscal quarter ended December 31, 2010 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

**Item 9B. Other Information.**

Not applicable.

**PART III****Item 10. Directors, Executive Officers, and Corporate Governance.**

See “Business—Executive Officers” in Item 1 of this Form 10-K. The remaining information called for by this item is incorporated by reference to “Election of Directors,” “Corporate Governance,” “Board of Directors and Committees” and “Additional Information – Section 16(a) Beneficial Ownership Reporting Compliance” in our definitive proxy statement for our 2011 Annual Meeting of Stockholders, which will be filed within 120 days of the end of our fiscal year ended December 31, 2010 (the “2011 Proxy Statement”).

**Family Relationships** – None.

**Audit Committee Financial Expert**

Our audit committee consists of Lawrence G. Schafran (Chairman of the Audit Committee), Robert van Maasdijk and Orri Hauksson. The Board of Directors has determined that Mr. Schafran and Mr. van Maasdijk qualify as “audit committee financial experts” as defined in applicable SEC rules. The Board of Directors made a qualitative assessment of Mr. Schafran’s and Mr. van Maasdijk’s level of knowledge and experience based on a number of factors, including formal education and business experience.

**Code of Ethics**

Our Board of Directors has adopted a Code of Ethics that is applicable to all Board members and all of the Company’s senior officers including its principal executive officer and its principal financial and accounting officer. A copy of the Code of Ethics is included as an exhibit to this report. In the event the Company amends a provision of its Code of Ethics that applies to its principal executive officer, principal financial officer, principal accounting officer or controller or persons performing similar functions or elects to grant a waiver, including an implicit waiver, from a provision of the Company’s Code of Ethics to such individuals, the Company will provide disclosures of such event on its website at [www.sulphco.com](http://www.sulphco.com) within four business days following the date of the amendment or waiver.

**Item 11. Executive Compensation.**

Incorporated by reference to “Compensation Discussion and Analysis,” “Compensation Committee Report,” “Summary Compensation Table,” “Grants of Plan-Based Awards,” “Outstanding Equity Awards at Fiscal Year-End,” “Option Exercises and Stock Vested,” “Pension Benefits,” “Nonqualified Deferred Compensation,” “Potential Payments Upon Termination” and “Non-management Directors’ Compensation” in the 2011 Proxy Statement.

**Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.**

Incorporated by reference to “Information on Stock Ownership” in the 2011 Proxy Statement.

**Item 13. Certain Relationships and Related Transactions, and Director Independence.**

Incorporated by reference to “Related Person Transactions” and “Corporate Governance” in the 2011 Proxy Statement.

**Item 14. Principal Accounting Fees and Services.**

Incorporated by reference to “Independent Auditor” in the 2011 Proxy Statement.

**PART IV****Item 15. Exhibits, Financial Statement Schedules.**

- 3.1\* Restated Articles of Incorporation, as amended and filed with the Nevada Secretary of State.
- 3.2 \*\* Amended and Restated Bylaws.
- 3.3\*\*\* Amendment to Bylaws.
- 4.9# Form of Warrant dated March 12, 2007.
- 10.1## Contract for Establishment of a Limited Liability Company (SulphCo Oil Technologies Kuwait).
- 10.2(1) Agreement dated February 22, 2005, by and between SulphCo, Inc. and OIL-SC, Ltd.
- 10.3(2) Letter Agreement by and between SulphCo and OIL-SC and dated as of November 9, 2005.
- 10.4(3) Memorandum of Association dated November 29, 2005, by and between SulphCo, Inc. and Trans Gulf Petroleum Co., a Government of Fujairah company.
- 10.5(4) SulphCo, Inc. 2006 Stock Option Plan approved by stockholders June 19, 2006.
- 10.6(5) Test Agreement between SK Corporation and SulphCo, Inc. dated July 20, 2006.
- 10.7(6) Amendment to Agreement of February 22, 2005 between SulphCo KorAsia, Inc. and SulphCo, Inc. dated August 18, 2006.
- 10.8(7) Employment Agreement with Larry Ryan dated January 12, 2007.
- 10.9(8) Amendment No. 1 to Securities Purchase Agreements and Warrants dated March 12, 2007, including form of Warrant as Exhibit "A" thereto.
- 10.10(9) Form of Assignment of Promissory Note, dated April, 24, 2007.
- 10.11(9) Form of Allonge to Assignment of Promissory Note, dated April 27, 2007
- 10.12(10) Employment Agreement with Stanley W. Farmer dated May 17, 2007
- 10.13(11) Amendment No. 2 to Securities Purchase Agreements and Warrants dated November 28, 2007, including form of Warrant as Exhibit "A" thereto.
- 10.14(11) License Agreement between Industrial Sonomechanics, LLC and SulphCo, Inc. dated November 9, 2007, including form of Warrant as Schedule 4.2 thereto.
- 10.15(12) Employment Agreement with M. Clay Chambers dated February 6, 2008.
- 10.16(13) Modification Agreement to Convertible Notes Payable Among SulphCo, Inc. and Holders dated November 28, 2007.
- 10.23(14) Severance Agreement with Brian J. Savino effective March 8, 2008.

- 10.24(15) Purchase Agreement dated May 27, 2008, by and between SulphCo, Inc. and the Purchasers parties thereto.
- 10.25(16) Employment Agreement with Florian J. Schattenmann dated January 9, 2009.
- 10.26(17) Form of Subscription Agreement dated as of January 26, 2010 between SulphCo, Inc. and each of the investors in the offering.
- 14.1(18) Code of Ethics adopted by the Board of Directors on June 12, 2008.
- 23.1 Consent of Hein & Associates LLP
- 31.1 Certification of President and CFO pursuant to Rule 13a-14 under the Securities Exchange Act of 1934.
- 32.1 Certification of President and CFO Pursuant to 18 U.S.C. § 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

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\* Incorporated by reference from the registrant's Form 8-K (SEC File No. 1-32636) filed with the SEC on June 25, 2008.

\*\* Incorporated by reference from the registrant's Form 8-K (SEC File No. 1-32636) filed with the SEC on March 30, 2009.

\*\*\* Incorporated by reference from the registrant's Form 8-K (SEC File No. 1-32636) filed on June 1, 2007.

# Incorporated by reference from the registrant's Form 10-K (SEC File No. 1-32636) filed with the SEC on April 2, 2007.

## Incorporated by reference from the registrant's Registration Statement on form SB-2 (SEC File Nos. 333-117061 and 27599).

(1) Incorporated by reference from the registrant's Form 8-K (SEC File No. 27599) as filed with the SEC on February 25, 2005.

(2) Incorporated by reference from the registrant's Form 10-QSB (SEC File No. 1-32636) as filed with the SEC on November 14, 2005.

(3) Incorporated by reference from the registrant's Form 8-K (SEC File No. 1-32636) as filed with the SEC on December 2, 2005.

(4) Incorporated by reference from the registrant's Form 8-K (SEC File No. 1-32636) as filed with the SEC on June 23, 2006.

(5) Incorporated by reference from the registrant's Form 8-K (SEC File No. 1-32636) as filed with the SEC on July 21, 2006.

(6) Incorporated by reference from the registrant's Form 8-K (SEC File No. 1-32636) as filed with the SEC on September 11, 2006.

(7) Incorporated by reference from the registrant's Form 8-K (SEC File No. 1-32636) as filed with the SEC on January 18, 2007.

- (8) Incorporated by reference from the registrant's Form 10-K (SEC File No. 1-32636) as filed with the SEC on April 2, 2007.
- (9) Incorporated by reference from the registrant's Form 8-K (SEC File No. 1-32636) as filed with the SEC on May 1, 2007.
- (10) Incorporated by reference from the registrant's Form 8-K (SEC File No. 1-32636) as filed with the SEC on May 23, 2007.
- (11) Incorporated by reference from the registrant's Form S-3 (SEC File No. 333-148499) as filed with the SEC on January 7, 2008.
- (12) Incorporated by reference from the registrant's Form 8-K (SEC File No. 1-32636) as filed with the SEC on February 8, 2008.
- (13) Incorporated by reference from the registrant's Form 10-K (SEC File No. 1-32636) as filed with the SEC on March 12, 2008.
- (14) Incorporated by reference from the registrant's Form 8-K (SEC File No. 1-32636) as filed with the SEC on March 13, 2008.
- (15) Incorporated by reference from the registrant's Form 8-K (SEC File No. 1-32636) as filed with the SEC on March 29, 2008.
- (16) Incorporated by reference from the registrant's Form 10-K (SEC File No. 1-32636) as filed with the SEC on March 6, 2009.
- (17) Incorporated by reference from the registrant's Form 8-K (SEC File No. 1-32636) as filed with the SEC on January 29, 2010.
- (18) Incorporated by reference from the registrant's Form 8-K (SEC File No. 1-32636) filed with the SEC on June 13, 2008.

**SIGNATURES**

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

SULPHCO, INC.

March 31, 2011

By: /s/ Stanley W. Farmer

Stanley W. Farmer  
President, Chief Financial Officer,  
Treasurer and Corporate Secretary

In accordance with the Exchange Act, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>/s/ Stanley W. Farmer</u> Stanley W. Farmer	President, Chief Financial Officer, Treasurer and Corporate Secretary (Principal Executive Officer, Principal Financial Officer and Principal Accounting Officer)	March 31, 2011
<u>/s/ Fred S. Zeidman</u> Fred S. Zeidman	Chairman of the Board, Director	March 31, 2011
<u>/s/ Larry D. Ryan</u> Larry D. Ryan	Director	March 31, 2011
<u>/s/ Robert J. Hassler</u> Robert J. Hassler	Director	March 31, 2011
<u>/s/ Orri Hauksson</u> Orri Hauksson	Director	March 31, 2011
<u>/s/ Robert H. C. van Maasdijk</u> Robert H. C. van Maasdijk	Director	March 31, 2011
<u>/s/ Lawrence G. Schafran</u> Lawrence G. Schafran	Director	March 31, 2011

**MANAGEMENT'S REPORT  
ON  
INTERNAL CONTROL OVER FINANCIAL REPORTING**

Management is responsible for establishing and maintaining adequate internal control over financial reporting of the Company. 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 accounting principles generally accepted in the United States of America.

The Company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with accounting principles generally accepted in the United States of America, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and (iii) 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 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.

Management conducted an evaluation of the effectiveness of internal control over financial reporting based on the framework in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this evaluation, management concluded that the Company's internal control over financial reporting was effective as of December 31, 2010.

The effectiveness of the internal control over financial reporting as of December 31, 2010 has not been audited by Hein & Associates LLP, an independent registered public accounting firm, as stated in their report which appears on Page F-2.

March 31, 2011

/s/ Stanley W. Farmer  

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Stanley W. Farmer  
*President, Chief Financial Officer,  
Treasurer and Corporate Secretary*

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**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors and Stockholders of SulphCo, Inc.:

We have audited the accompanying balance sheets of SulphCo, Inc. (a company in the Development Stage) (the "Company") as of December 31, 2010 and 2009, and the related statements of operations, cash flows and changes in stockholders' equity (deficit) for each of the years in the three year period ended December 31, 2010. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these 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 financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the 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 financial statements referred to above present fairly, in all material respects, the financial position of the Company at December 31, 2010 and 2009, and the results of its operations and its cash flows for the each of the years in the three year period ended December 31, 2010, in conformity with accounting principles generally accepted in the United States of America.

We have also audited the combination in the statements of operations, cash flows and changes in stockholders' equity (deficit) of the amounts as presented for each of the three years in the period ending December 31, 2010, with the amounts for the corresponding statements for the period from inception (January 13, 1999) through December 31, 2006. In our opinion, the amounts have been properly combined for the period from inception (January 13, 1999) through December 31, 2010.

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the financial statements, the Company has suffered recurring losses from operations that raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

We were not engaged to examine management's assertion about the effectiveness of the Company's internal control over financial reporting as of December 31, 2010 and, accordingly, we do not express an opinion thereon.

/s/ Hein & Associates LLP

Houston, Texas

March 31, 2011

SULPHCO, INC.  
(A Company in the Development Stage)  
**BALANCE SHEETS**  
December 31, 2010 and 2009

	<u>2010</u>	<u>2009</u>
<b>ASSETS</b>		
<b><u>Current Assets</u></b>		
Cash and cash equivalents	\$ 329,661	\$ 1,658,823
Prepaid expenses and other	536,382	688,008
	<u>866,043</u>	<u>2,346,831</u>
Total current assets		
<b>Property and Equipment, net</b>	<u>157,258</u>	<u>263,995</u>
<b><u>Other Assets</u></b>		
Intangible assets, net	625,337	986,124
Other	12,600	20,600
	<u>637,937</u>	<u>1,006,724</u>
Total other assets		
Total assets	<u>\$ 1,661,238</u>	<u>\$ 3,617,550</u>
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
<b><u>Current Liabilities</u></b>		
Accounts payable and accrued expenses	\$ 493,367	\$ 552,496
Refundable deposit	550,000	550,000
Late registration penalty (including accrued interest)	419,417	389,836
	<u>1,462,784</u>	<u>1,492,332</u>
Total current liabilities		
<b><u>Long-Term Liabilities</u></b>	-	-
Total liabilities	<u>1,462,784</u>	<u>1,492,332</u>
<b><u>Commitments and Contingencies (Note 11)</u></b>		
<b><u>Stockholders' Equity</u></b>		
Preferred stock: 10,000,000 shares authorized (\$0.001 par value) none issued	-	-
Common stock: 150,000,000 shares authorized (\$0.001 par value) 101,708,741 and 89,944,029 shares issued and outstanding, respectively	101,709	89,944
Additional paid-in capital	164,966,996	159,298,891
Deficit accumulated during the development stage	<u>(164,870,251)</u>	<u>(157,263,617)</u>
Total stockholders' equity	<u>198,454</u>	<u>2,125,218</u>
Total liabilities and stockholders' equity	<u>\$ 1,661,238</u>	<u>\$ 3,617,550</u>

The Accompanying Notes are an Integral Part of the Financial Statements.

SULPHCO, INC.  
(A Company in the Development Stage)  
**STATEMENTS OF OPERATIONS**  
For the Years ended December 31, 2010, 2009 and 2008  
and for the Period from Inception through December 31, 2010

	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>Inception to Date</u>
<b><u>Revenue</u></b>				
Sales	\$ -	\$ -	\$ -	\$ 42,967
<b><u>Expenses</u></b>				
Selling, general, and administrative expenses	(5,350,405)	(7,470,131)	(16,034,049)	(80,757,678)
Research and development expenses:				
Fujairah test facility	(39,008)	(317,362)	(364,904)	(23,888,913)
Other research and development	(2,181,928)	(3,352,932)	(3,688,804)	(22,377,993)
Other	-	-	-	(591,706)
Total operating expenses	<u>(7,571,341)</u>	<u>(11,140,425)</u>	<u>(20,087,757)</u>	<u>(127,616,290)</u>
Loss from operations	<u>(7,571,341)</u>	<u>(11,140,425)</u>	<u>(20,087,757)</u>	<u>(127,573,323)</u>
<b><u>Other income (expense)</u></b>				
Interest income	1,650	44,976	138,151	1,203,341
Interest expense	(36,943)	(920,905)	(1,222,203)	(8,876,566)
Other	-	-	-	(766,868)
<b>Net loss</b>	<u>(7,606,634)</u>	<u>(12,016,354)</u>	<u>(21,171,809)</u>	<u>(136,013,416)</u>
Deemed dividend	-	-	(4,087,887)	<u>(28,856,835)</u>
<b>Net loss attributable to common stockholders</b>	<u>\$ (7,606,634)</u>	<u>\$(12,016,354)</u>	<u>\$(25,259,696)</u>	<u>\$(164,870,251)</u>
Loss per share: basic and diluted	<u>\$ (0.08)</u>	<u>\$ (0.13)</u>	<u>\$ (0.29)</u>	
Weighted average shares basic and diluted	<u>100,870,707</u>	<u>89,944,029</u>	<u>85,870,148</u>	

The Accompanying Notes are an Integral Part of the Financial Statements.

SULPHCO, INC.  
(A Company in the Development Stage)  
**STATEMENTS OF CASH FLOWS**  
For the Years Ended December 31, 2010, 2009 and 2008  
and for the Period from Inception to December 31, 2010

	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>Inception To Date</u>
<b><u>Cash Flows From Operating Activities</u></b>				
Net loss	\$(7,606,634)	\$(12,016,354)	\$(21,171,809)	\$(136,013,416)
Adjustments to reconcile net loss to net cash used in operating activities:				
Depreciation and amortization	468,892	244,664	220,401	2,121,401
Accretion of convertible notes payable discount		855,762	856,480	6,736,550
Stock-based compensation	298,851	1,306,815	5,226,632	21,316,401
Other	85,707	875	502,133	1,444,888
Changes in:				
Prepaid expenses and other	159,626	92,076	(319,952)	(548,982)
Accounts payable and accrued expenses	(59,129)	(1,270,537)	127,697	493,367
Refundable deposit	-	-	-	550,000
Late registration penalty (including accrued interest)	29,581	(234,975)	(469,860)	419,417
Net cash used in operating activities	<u>(6,623,106)</u>	<u>(11,021,674)</u>	<u>(15,028,278)</u>	<u>(103,480,374)</u>
<b><u>Cash Flows From Investing Activities</u></b>				
Purchase of property and equipment	(37,553)	(130,375)	(137,259)	(1,561,261)
Investments in joint ventures and subsidiaries	-	-	-	(361,261)
Investments in intangible assets	(49,522)	(76,932)	(182,455)	(1,296,095)
Net cash used in investing activities	<u>(87,075)</u>	<u>(207,307)</u>	<u>(319,714)</u>	<u>(3,218,617)</u>
<b><u>Cash Flows from Financing Activities</u></b>				
Proceeds from sales of stock, net of offering costs	5,381,019	-	25,485,702	104,790,796
Proceeds from related party notes payable	-	-	-	11,000,000
Proceeds from issuance of line of credit	-	-	-	750,000
Principal payments on related party notes payable	-	-	-	(5,441,285)
Decrease in related party receivable	-	-	-	1,359,185
Principal payments on line of credit	-	-	-	(750,000)
Principal payments on convertible notes payable	-	(4,680,044)	-	(4,680,044)
Net cash provided by (used in) financing activities	<u>5,381,019</u>	<u>(4,680,044)</u>	<u>25,485,702</u>	<u>107,028,652</u>
Net change in cash and cash equivalents	(1,329,162)	(15,909,025)	10,137,710	329,661
Cash and cash equivalents: beginning of period	1,658,823	17,567,848	7,430,138	-
Cash and cash equivalents at end of period	<u>\$ 329,661</u>	<u>\$ 1,658,823</u>	<u>\$ 17,567,848</u>	<u>\$ 329,661</u>
<b><u>Supplemental information</u></b>				
Cash paid for interest	<u>\$ 3,612</u>	<u>\$ 124,367</u>	<u>\$ 417,673</u>	<u>\$ 1,513,412</u>
Cash paid for income taxes	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
The Company had the following non-cash investing and financing activities:				
Extinction of related party note payable	-	-	-	5,000,000
Extinction of convertible notes payable	-	-	-	4,680,044
Issuance of stock for convertible notes payable	-	-	-	319,956
Non-cash deemed dividend	-	-	4,087,887	28,856,835

The Accompanying Notes are an Integral Part of the Financial Statements.

SULPHCO, INC.  
(A Company in the Development Stage)  
STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIT)  
From Inception to December 31, 2010

	<u>Common Stock</u>		<u>Additional</u>		<u>Accumulated</u>		<u>Stock</u>		<u>Total</u>
	<u>Shares</u>	<u>Amount</u>	<u>Paid-in</u>	<u>Capital</u>	<u>Deficit</u>	<u>Receivable</u>	<u>and Other</u>	<u>Equity</u>	
Balance at January 13, 1999	-	\$ -	-	\$ -	-	-	-	-	-
Stock issued for cash at \$167 per share	1,000	1	166,999		-	-		167,000	
Restatement for recapitalization of GRD, Inc.	19,999,000	19,999	(19,999)		-	-		-	
Net loss	-	-	-		(128,802)	-		(128,802)	
Balance at December 31, 1999	20,000,000	20,000	147,000		(128,802)	-		38,198	
Contributions from stockholders:									
Cash	-	-	169,169		-	-		169,169	
Equipment	-	-	362,331		-	-		362,331	
Acquisition of GRD, Inc.	1,200,000	1,200	(251,200)		-	-		(250,000)	
Stock issued for cash and subscription receivable at \$0.50 per share	820,000	820	409,180		-	(208,500)		201,500	
Stock options granted at \$0.50 per share in December 2000	-	-	919,401		-	-		919,401	
Stock options granted at \$1.50 per share in December 2000	-	-	94,799		-	-		94,799	
Net loss	-	-	-		(1,364,390)	-		(1,364,390)	
Balance at December 31, 2000	<u>22,020,000</u>	<u>\$ 22,020</u>	<u>\$1,850,680</u>		<u>\$ (1,493,192)</u>	<u>\$ (208,500)</u>		<u>\$ 171,008</u>	

The Accompanying Notes are an Integral Part of the Financial Statements.

SULPHCO, INC.  
(A Company in the Development Stage)  
STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIT) - Continued  
From Inception to December 31, 2010

	<u>Common Stock Shares</u>	<u>Common Stock Amount</u>	<u>Additional Paid-in Capital</u>	<u>Accumulated Deficit</u>	<u>Stock Subscriptions Receivable and Other</u>	<u>Total Equity</u>
Balance at December 31, 2000	22,020,000	\$ 22,020	\$ 1,850,680	\$ (1,493,192)	\$ (208,500)	\$ 171,008
Stock issued for intangible assets at \$4.25 per share in January 2001	292,800	293	1,244,107	-	-	1,244,400
Stock issued for intangible assets at \$2.85 per share in February 2001	400,000	400	1,139,600	-	-	1,140,000
Stock sold to related party at \$1.47 per share in February 2001	24,750	25	36,431	-	-	36,456
Stock issued for marketing services at \$2.86 per share in April 2001	200,000	200	571,800	-	-	572,000
Stock options granted to related parties for services in June 2001	-	-	773,931	-	-	773,931
Stock issued in exchange for notes receivable at \$0.50 per share in May 2001	9,556,000	9,556	4,768,444	-	(4,778,000)	-
Stock issued in exchange for notes receivable at \$1.50 per share in June 2001	425,000	425	637,075	-	(637,500)	-
Stock sold for cash at \$2.94 per share in June 2001	100,000	100	293,900	-	-	294,000
Stock issued in exchange for note receivable at \$1.41 per share in June 2001	200,000	200	281,800	-	(282,000)	-
Stock issued to related party for cash at \$0.50 per share in June 2001	350,000	350	174,650	-	-	175,000
Cash received for subscription receivable in July 2001	-	-	-	-	282,000	282,000
Cash received for subscription receivable in August 2001	-	-	-	-	340,000	340,000
Stock issued for subscription receivable at \$0.725 per share in September 2001	2,758,620	2,759	1,997,241	-	(2,000,000)	-
Stock issued to related party for consulting fees at \$0.85 per share in November 2001	4,000,000	4,000	3,396,000	-	-	3,400,000
Stock returned in November 2001	(300,000)	(300)	(1,558,147)	-	784,500	(773,947)
Cash received for subscriptions	-	-	-	-	200,000	200,000

Stock returned in December 2001	(100,000)	(100)	(49,900)	-	50,000	-
Stock options at a weighted average price of \$0.75 per share in October 2001	-	-	89,020	-	-	89,020
Net loss	<u>-</u>	<u>-</u>	<u>-</u>	<u>(6,927,525)</u>	<u>-</u>	<u>(6,927,525)</u>
Balance at December 31, 2001	<u>39,927,170</u>	<u>\$ 39,928</u>	<u>\$15,646,632</u>	<u>\$ (8,420,717)</u>	<u>\$ (6,249,500)</u>	<u>\$ 1,016,343</u>

The Accompanying Notes are an Integral Part of the Financial Statements.

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SULPHCO, INC.  
(A Company in the Development Stage)  
STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIT) - Continued  
From Inception to December 31, 2010

	<u>Common Stock</u>		<u>Additional</u>		<u>Accumulated</u>		<u>Stock</u>		<u>Total</u>
	<u>Shares</u>	<u>Amount</u>	<u>Paid-in</u>	<u>Capital</u>	<u>Deficit</u>	<u>and Other</u>	<u>Equity</u>		
Balance at December 31, 2001	39,927,170	\$ 39,928	\$15,646,632	\$ (8,420,717)	\$ (6,249,500)		\$ 1,016,343		
Stock issued for related party services at \$0.50 per share in March 2002	10,000,000	10,000	4,990,000	-	-		5,000,000		
Stock returned in May 2002	(1,000,000)	(1,000)	(499,000)	-	500,000		-		
Stock returned in June 2002	(100,000)	(100)	(71,900)	-	72,000		-		
Stock returned in July 2002	(25,000)	(25)	(37,475)	-	37,500		-		
Payment on stock subscription received in July 2002	-	-	-	-	515,500		515,500		
Stock returned in July 2002	(1,000,000)	(1,000)	(499,000)	-	500,000		-		
Stock issued for services at \$0.10 per share in September 2002	50,000	50	4,950	-	-		5,000		
Stock returned in September 2002	(431,000)	(431)	(440,069)	-	-		(440,500)		
Stock issued for services at \$0.27 per share in October 2002	50,000	50	13,450	-	-		13,500		
Stock options issued in November 2002 for \$0.10 per share	-	-	31,500	-	-		31,500		
Stock issued to a related party for cash at \$0.10 per share in November 2002	100,000	100	9,900	-	-		10,000		
Stock issued to a related party for cash at \$0.10 per share in December 2002	50,000	50	4,950	-	-		5,000		
Net loss	-	-	-	(6,573,627)	-		(6,573,627)		
Balance at December 31, 2002	<u>47,621,170</u>	<u>\$ 47,622</u>	<u>\$19,153,938</u>	<u>\$ (14,994,344)</u>	<u>\$ (4,624,500)</u>		<u>\$ (417,284)</u>		

The Accompanying Notes are an Integral Part of the Financial Statements.

SULPHCO, INC.  
(A Company in the Development Stage)  
STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIT) - Continued  
From Inception to December 31, 2010

	<u>Common Stock</u>		<u>Additional</u>		<u>Accumulated</u>		<u>Stock</u>		<u>Total</u>
	<u>Shares</u>	<u>Amount</u>	<u>Paid-in</u>	<u>Capital</u>	<u>Deficit</u>	<u>Receivable</u>	<u>and Other</u>	<u>Equity</u>	
Balance at December 31, 2002	47,621,170	\$ 47,622	\$19,153,938	\$(14,994,344)	\$ (4,624,500)	\$ (417,284)			
Stock subscribed for services at \$0.42 per share in February 2003	-	-	20,950	-	50	21,000			
Payment on stock subscription received in February 2003	-	-	-	-	3,575,000	3,575,000			
Stock issued to a related party for cash at \$0.33 per share in March 2003	50,000	50	16,450	-	-	16,500			
Stock issued for services at \$0.32 per share in June 2003	50,000	50	15,950	-	-	16,000			
Stock returned in August 2003	(196,870)	(197)	(196,678)	-	196,875	-			
Stock returned in September 2003	(3,130)	(3)	(3,322)	-	3,325	-			
Stock issued to a related party for cash at \$0.23 per share in November 2003	2,173,913	2,174	497,826	-	-	500,000			
Stock returned in December 2003	(25,000)	(25)	(37,275)	-	37,300	-			
Stock subscribed for prepaid interest to a related party at \$0.42 per share in December 2003	-	-	295,000	-	(295,000)	-			
Net loss	-	-	-	(3,170,959)	-	(3,170,959)			
Balance at December 31, 2003	<u>49,670,083</u>	<u>\$ 49,671</u>	<u>\$19,762,839</u>	<u>\$(18,165,303)</u>	<u>\$ (1,106,950)</u>	<u>\$ 540,257</u>			

The Accompanying Notes are an Integral Part of the Financial Statements.

SULPHCO, INC.  
(A Company in the Development Stage)  
STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIT) - Continued  
From Inception to December 31, 2010

	<u>Common Stock</u>		<u>Additional</u>		<u>Accumulated</u>		<u>Stock</u>		<u>Total</u>
	<u>Shares</u>	<u>Amount</u>	<u>Paid-in</u>	<u>Capital</u>	<u>Deficit</u>	<u>Receivable</u>	<u>and Other</u>	<u>Equity</u>	
Balance at December 31, 2003	49,670,083	\$ 49,671	\$19,762,839	\$ (18,165,303)	\$ (1,106,950)	\$	540,257		
Restricted stock issued for interest on notes \$0.296 per share in January 2004	1,000,000	1,000	-	-	(1,000)	-	-		
Stock issued for services at \$0.85 per share in January 2004	100,000	100	84,900	-	-	-	85,000		
Issued subscribed stock at \$0.42 per share in March 2004	50,000	50	-	-	(50)	-	-		
Private placement stock issuance at \$0.90 per share in June 2004	2,978,342	2,978	2,677,530	-	-	-	2,680,508		
Private placement stock issuance at \$1.25 per share in June 2004	2,030,960	2,031	1,896,912	-	-	-	1,898,943		
Stock options exercised at \$0.55 per share in July 2004	200,000	200	109,800	-	-	-	110,000		
Stock options exercised at \$0.35 per share in July 2004	100,000	100	34,900	-	-	-	35,000		
Stock issued for services at \$2.86 per share in August 2004	45,000	45	128,655	-	(128,700)	-	-		
Cancellation of subscribed stock at \$1.50 per share in September 2004	(45,000)	(45)	(67,455)	-	67,500	-	-		
Stock options exercised at \$0.55 per share in December 2004	300,000	300	164,700	-	-	-	165,000		
Amortization of prepaid interest	-	-	-	-	296,000	-	296,000		
Amortization of prepaid expenses	-	-	-	-	53,625	-	53,625		
Contribution from related party stockholder of option given to former employee to buy 100,000 shares at \$0.55 per share	-	-	555,000	-	-	-	555,000		
Related party receivable for tax withholding on exercise of stock options	-	-	-	-	(257,750)	-	(257,750)		
Net loss	-	-	-	(4,146,453)	-	-	(4,146,453)		
Balance at December 31, 2004	<u>56,429,385</u>	<u>\$ 56,430</u>	<u>\$25,347,781</u>	<u>\$ (22,311,756)</u>	<u>\$ (1,077,325)</u>	<u>\$</u>	<u>2,015,130</u>		

The Accompanying Notes are an Integral Part of the Financial Statements.

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SULPHCO, INC.  
(A Company in the Development Stage)  
STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIT) - Continued  
From Inception to December 31, 2010

	<u>Common Stock</u>		<u>Additional</u>		<u>Accumulated</u>		<u>Stock</u>		<u>Total</u>
	<u>Shares</u>	<u>Amount</u>	<u>Paid-in</u>	<u>Capital</u>	<u>Deficit</u>	<u>Receivable</u>	<u>and Other</u>	<u>Equity</u>	
Balance at December 31, 2004	56,429,385	\$ 56,430	\$25,347,781	\$ (22,311,756)	\$ (1,077,325)			\$ 2,015,130	
Stock issued to a Director for services at \$5.47 per share in January 2005	50,000	50	273,450	-	-			273,500	
Stock issued to an Officer for services at \$4.08 per share in January 2005	50,000	50	203,950	-	-			204,000	
Receipt of related party receivable for tax withholding on stock options in January 2005	-	-	-	-	-	257,750		257,750	
Stock issued to a consultant for services at \$5.91 per share in April 2005	15,000	15	88,635	-	-			88,650	
Stock issued to a Director for services at \$4.99 per share in April 2005	50,000	50	249,450	-	-			249,500	
Stock issued to a Director for services at \$3.54 per share in May 2005	50,000	50	176,950	-	-			177,000	
Warrants and Additional Investment Rights exercised in August 2005	79,430	79	81,151	-	-			81,230	
Warrants and Additional Investment Rights exercised in September 2005	83,230	83	84,565	-	-			84,648	
Warrants and Additional Investment Rights exercised in October 2005	16,126	16	21,812	-	-			21,828	
Warrants and Additional Investment Rights exercised in November 2005	585,244	585	535,094	-	-			535,679	
Stock issued to a Director for services at \$3.61 per share in November 2005	50,000	50	180,450	-	-			180,500	
Stock issued to a Director for services at \$6.40 per share in December 2005	50,000	50	319,950	-	-			320,000	
Warrants and Additional Investment Rights exercised in December 2005	3,028,380	3,028	3,041,104	-	-			3,044,132	

Amortization of prepaid expenses	-	-	-	-	75,075	75,075
Net loss	<u>-</u>	<u>-</u>	<u>-</u>	<u>(9,428,370)</u>	<u>-</u>	<u>(9,428,370)</u>
Balance at December 31, 2005	<u>60,536,795</u>	<u>\$ 60,536</u>	<u>\$30,604,342</u>	<u>\$ (31,740,126)</u>	<u>\$ (744,500)</u>	<u>\$(1,819,748)</u>

The Accompanying Notes are an Integral Part of the Financial Statements.

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SULPHCO, INC.  
(A Company in the Development Stage)  
STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIT) - Continued  
From Inception to December 31, 2010

	<u>Common Stock</u>		<u>Additional</u>		<u>Accumulated</u>		<u>Stock</u>		<u>Total</u>
	<u>Shares</u>	<u>Amount</u>	<u>Paid-in</u>	<u>Capital</u>	<u>Deficit</u>	<u>Receivable</u>	<u>and Other</u>	<u>Equity</u>	
Balance at December 31, 2005	60,536,795	\$ 60,536	\$30,604,342	\$ (31,740,126)	\$ (744,500)	\$ (1,819,748)			
Warrants and Additional Investment Rights exercised in January 2006	4,423,628	4,424	4,790,044	-	-	4,794,468			
Warrants and Additional Investment Rights exercised in February 2006	1,291,660	1,292	1,303,532	-	-	1,304,824			
Warrants and Additional Investment Rights exercised in March 2006	2,151,327	2,151	2,068,603	-	-	2,070,754			
Private placement – March 2006	4,000,000	4,000	27,063,373	-	-	27,067,373			
Stock issued to a consultant for services at \$7.44 per share in March 2006	17,500	18	130,182	-	-	130,200			
Stock option accrued for a consultant for services at \$7.44 per share in March 2006	-	-	357,525	-	-	357,525			
Stock issued to a Director for services at \$8.80 per share in March 2006	50,000	50	439,950	-	-	440,000			
Stock issued to a Director for services at \$12.72 per share in March 2006	50,000	50	635,950	-	-	636,000			
Stock option accrued for a consultant for services at \$7.44 per share in March 2006	-	-	8,050	-	-	8,050			
Accrual of stock option for Director – June 2006	-	-	687,500	-	-	687,500			
Stock issued to a Director for services at \$5.53 per share in August 2006	50,000	50	276,450	-	-	276,500			
Stock issued to a Director for services at \$4.87 per share in December 2006	50,000	50	243,450	-	-	243,500			
Accrual of stock option for Director	-	-	1,045,000	-	-	1,045,000			
Options for Director forfeited December 2006	-	-	(1,045,000)	-	-	(1,045,000)			

Reversal of stock subscriptions receivable	-	-	(744,500)	-	744,500	-
Other	-	-	-	-	(3,455)	(3,455)
Net loss	<u>-</u>	<u>-</u>	<u>-</u>	<u>(39,116,162)</u>	<u>-</u>	<u>(39,116,162)</u>
Balance at December 31, 2006	<u>72,620,910</u>	<u>\$ 72,621</u>	<u>\$67,864,451</u>	<u>\$(70,856,288)</u>	<u>\$ (3,455)</u>	<u>\$ (2,922,671)</u>

The Accompanying Notes are an Integral Part of the Financial Statements.

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SULPHCO, INC.  
(A Company in the Development Stage)  
STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIT) - Continued  
From Inception to December 31, 2010

	<b>Common Stock</b>		<b>Additional</b>	<b>Accumulated</b>	<b>Stock</b>	<b>Total</b>
	<b>Shares</b>	<b>Amount</b>	<b>Paid-in</b>	<b>Deficit</b>	<b>Subscriptions</b>	<b>Equity</b>
			<b>Capital</b>		<b>Receivable</b>	
					<b>and Other</b>	
Balance at December 31, 2006	72,620,910	\$ 72,621	\$ 67,864,451	\$ (70,856,288)	\$ (3,455)	\$ (2,922,671)
Stock-Based Compensation	70,206	70	4,335,191	-	-	4,335,261
Proceeds from Stock Sales (Net of Offering Costs)						
Warrants exercised in Q1 2007 at \$1.12 to \$2.68 per share	3,952,068	3,952	7,783,721	-	-	7,787,673
Warrants exercised in Q2 2007 at \$2.68 per share	600,000	600	1,599,925	-	-	1,600,525
Warrants exercised in Q3 2007 at \$2.68 per share	1,425,412	1,425	3,767,425	-	-	3,768,850
Warrants exercised in Q4 2007 at \$2.68 per share	2,029,070	2,029	5,524,935	-	-	5,526,964
Deemed Dividends	-	-	24,768,948	(24,768,948)	-	-
Convertible Notes Payable - Beneficial Conversion Feature	-	-	6,736,550	-	-	6,736,550
Cashless option exercise	66,551	67	(67)	-	-	-
Debt Conversion at \$3.80 per share	84,199	84	319,872	-	-	319,956
Other	-	-	-	-	3,455	3,455
Net loss	-	-	-	(24,362,331)	-	(24,362,331)
Balance at December 31, 2007	<u>80,848,416</u>	<u>\$ 80,848</u>	<u>\$122,700,951</u>	<u>\$(119,987,567)</u>	<u>\$ -</u>	<u>\$ 2,794,232</u>

The Accompanying Notes are an Integral Part of the Financial Statements.

SULPHCO, INC.  
(A Company in the Development Stage)  
STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIT) - Continued  
From Inception to December 31, 2010

	<u>Common Stock</u>		<u>Additional</u>	<u>Accumulated</u>	<u>Stock</u>	<u>Total</u>
	<u>Shares</u>	<u>Amount</u>	<u>Paid-in</u>	<u>Deficit</u>	<u>Subscriptions</u>	<u>Equity</u>
			<u>Capital</u>		<u>Receivable</u>	
					<u>and Other</u>	
Balance at December 31, 2007	80,848,416	\$ 80,848	\$122,700,951	\$(119,987,567)	\$ -	\$ 2,794,232
Stock-Based Compensation	-	-	5,139,632	-	-	5,139,632
Proceeds from Stock Sales (Net of Offering Costs)						
Warrants exercised in Q2 2008 at \$2.68 per share	1,953,088	1,953	5,158,714	-	-	5,160,667
Shelf Registration in Q2 2008 at \$3.20 per share	6,818,750	6,819	20,318,216	-	-	20,325,035
Deemed Dividends	-	-	4,087,887	(4,087,887)	-	-
Stock Issued to Settle Litigation at \$2.02 per share	247,525	248	499,752	-	-	500,000
Stock Issued for Services and other at \$1.70 per share	51,250	51	86,949	-	-	87,000
Net loss	-	-	-	(21,171,809)	-	(21,171,809)
Balance at December 31, 2008	<u>89,919,029</u>	<u>\$ 89,919</u>	<u>\$157,992,101</u>	<u>\$(145,247,263)</u>	<u>\$ -</u>	<u>\$ 12,834,757</u>

The Accompanying Notes are an Integral Part of the Financial Statements.

SULPHCO, INC.  
(A Company in the Development Stage)  
STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIT) - Continued  
From Inception to December 31, 2010

	<b>Common Stock</b>		<b>Additional</b>	<b>Accumulated</b>	<b>Stock</b>	<b>Total</b>
	<b>Shares</b>	<b>Amount</b>	<b>Paid-in</b>	<b>Deficit</b>	<b>Subscriptions</b>	<b>Equity</b>
			<b>Capital</b>		<b>Receivable</b>	
					<b>and Other</b>	
Balance at December 31, 2008	89,919,029	\$ 89,919	\$157,992,101	\$(145,247,263)	\$ -	\$ 12,834,757
Stock-Based Compensation	-	-	1,291,565	-	-	1,291,565
Stock Grant issued in Q1 2009 at \$0.61 per share	25,000	25	15,225	-	-	15,250
Net loss	-	-	-	(12,016,354)	-	(12,016,354)
Balance at December 31, 2009	89,944,029	\$ 89,944	\$159,298,891	\$(157,263,617)	\$ -	\$ 2,125,218
Stock-Based Compensation	-	-	298,851	-	-	298,851
Proceeds from Stock Sales (Net of Offering Costs) at \$0.51 per share	11,764,712	11,765	5,369,254	-	-	5,381,019
Net loss	-	-	-	(7,606,634)	-	(7,606,634)
Balance at December 31, 2010	<u>101,708,741</u>	<u>\$ 101,709</u>	<u>\$164,966,996</u>	<u>\$(164,870,251)</u>	<u>\$ -</u>	<u>\$ 198,454</u>

The Accompanying Notes are an Integral Part of the Financial Statements.

**SULPHCO, INC.**  
**(A Company in the Development Stage)**  
**NOTES TO FINANCIAL STATEMENTS**  
**December 31, 2010**

**1. Organization and Significant Accounting Policies**

**Business**

SulphCo, Inc. (“SulphCo” or the “Company”) is considered a developmental stage company as defined in the Research and Development Topic of the FASB Accounting Standards Codification as the Company has not recognized significant revenue and is continuing to develop and market processes designed to desulfurize crude oil products and crude oil. The overall process is designed to “upgrade” the quality of crude oil and crude oil products by modifying and reducing sulfur and nitrogen content to make those compounds easier to process using conventional techniques.

SulphCo, formerly Film World, Inc., was originally organized under the laws of the State of Nevada on December 23, 1986 under the name Hair Life, Inc. The Company became inactive during 1987 and remained inactive until September 1994. In September 1994, through a reverse acquisition agreement, the Patterson Group became a wholly owned subsidiary of Hair Life, Inc. Operations were conducted via two subsidiaries until 1998, at which time all operations were discontinued, and the Company remained dormant until January 1999.

In July 1999 the Company acquired film rights and changed the corporate name to Film World, Inc. In December 2000 the Company discontinued its film operations and distributed all assets and liabilities related to that business to certain shareholders in exchange for their stock.

In December 2000 the Company entered into an exchange agreement with GRD, Inc. (DBA SulphCo) and issued 1,200,000 shares in exchange for all of the outstanding shares of GRD, Inc. Because the shareholders of GRD, Inc. controlled the Company after the exchange, the merger was accounted for as a reverse acquisition of Film World, Inc. The Company’s name was changed to SulphCo, Inc.

The Company’s stock has traded on the NYSE Amex (formerly known as the American Stock Exchange) since October 2005 under the symbol “SUF.” Previously the Company’s common stock had been quoted on the OTC Bulletin Board under the symbol “SLPH.”

**Going Concern**

The accompanying financial statements have been prepared on a going concern basis, which contemplates the realization of assets and the settlement of liabilities and commitments in the normal course of business. As reflected in the accompanying financial statements, the Company has no revenues, has incurred substantial losses from operations and has an accumulated deficit of approximately \$164.9 million. These factors raise substantial doubt about its ability to continue as a going concern. The ability of the Company to continue as a going concern is dependent on the Company’s ability to implement its business plan and raise additional funds.

**Use of Estimates in the Preparation of Financial Statements**

The preparation of financial statements in conformity with U.S. generally accepted accounting principles (“GAAP”) requires management to make estimates and assumptions that affect the reported amounts of certain assets and liabilities, disclosures of contingent assets and liabilities at the date of the financial statements, and the related reported amounts of revenues and expenses during the reporting period. The significant estimates made by management in the accompanying financial statements include allowances for doubtful accounts, determination of income taxes, contingent liabilities, useful lives used in depreciation and amortization and the assumptions utilized to compute stock-based compensation. Actual results could differ from those estimates.

**Cash and Cash Equivalents**

All highly liquid investments with original maturities of three months or less are considered to be cash equivalents.

**Fair Value of Financial Instruments**

The carrying amounts of financial instruments held by the Company, which include cash, accounts payable, and accrued liabilities, approximate fair values due to their short maturity. The carrying value of the convertible notes payable reasonably approximated its fair value as it had a variable interest rate that reset on a quarterly basis.

**Property and Equipment**

Property and equipment are recorded at cost, less accumulated depreciation. The Company periodically reviews its long-lived assets for impairment and whenever events or changes in circumstances indicate that the carrying amount of the assets might not be recovered through undiscounted future cash flows, such impairment losses are recognized in the statement of operations.

The cost of property and equipment is depreciated over the estimated useful lives of the assets ranging from three to seven years. Leasehold improvements are depreciated over the lesser of the terms of the lease or the estimated useful lives of the assets. Depreciation is computed using the straight line method. Expenditures for maintenance and repairs are expensed when incurred, while betterments are capitalized. Gains and losses on the sale of property and equipment are reflected in the statement of operations.

**Intangible Assets**

Intangible assets include patents, trade names and other intangible assets acquired from an independent party. Intangible assets with a definite life are amortized on a straight-line basis, with estimated useful lives ranging from 10 to 20 years. Intangible assets with a definite life are tested for impairment whenever events or circumstances indicate that the carrying amount of an asset (asset group) may not be recoverable. An impairment loss is recognized when the carrying amount of an asset exceeds the estimated undiscounted cash flows used in determining the fair value of the asset. The amount of the impairment loss to be recorded is calculated by the excess of the asset's carrying value over its fair value. Fair value is generally determined using a discounted cash flow analysis.

**Equity Method**

Investments in joint ventures and other entities over which the Company does not have control, but does have the ability to exercise significant influence over the operating and financial policies, are carried under the equity method. The investment in Fujairah Oil Technology LLC ("FOT"), in which the Company owns a 50% interest, has been reduced to zero at December 31, 2010 and 2009, respectively. To the extent that the Company continues to incur costs in excess of its investment in FOT, these costs will be recognized by the Company as research and development costs.

**Research and Development**

The Company expenses research and development costs as incurred. Since the Company has not generated meaningful revenue to date and has yet to validate the commercial viability of its technology, all costs incurred to date relating to its current ongoing technology development and commercial validation efforts have been expensed as research and development costs.

**Income Taxes**

Income taxes are accounted for under the asset and liability method. Deferred income tax assets and liabilities are established for temporary differences between the financial reporting basis and the tax basis of our assets and liabilities at tax rates expected to be in effect when such assets or liabilities are realized or settled. Deferred income tax assets are reduced by a valuation allowance if, in the judgment of our management, it is more likely than not that such assets will not be realized.

Income taxes include the largest amount of tax benefit for an uncertain tax position that is more likely than not to be sustained upon audit based on the technical merits of the tax position. Settlements with tax authorities, the expiration of statutes of limitations for particular tax positions, or obtaining new information on particular tax positions may cause a change to the effective tax rate.

### **Loss Per Share**

The computations of basic and diluted loss per common share are based upon the weighted average number of common shares outstanding and potentially dilutive securities. Potentially dilutive securities include options and warrants to acquire the Company's common stock and convertible debt. As of December 31, 2010, 2009 and 2008, there were approximately 21.9 million, 11.0 million and 11.0 million shares issuable, respectively, in connection with these potentially dilutive securities. These potentially dilutive securities were disregarded in the computations of diluted net loss per share for the years ended December 31, 2010, 2009 and 2008, respectively, because inclusion of such potentially dilutive securities would have been anti-dilutive.

### **Stock-Based Compensation**

In accordance with the Stock Compensation Topic of the FASB Accounting Standards Codification, the Company records stock-based compensation expense for all share-based payment arrangements, including stock options, warrants and restricted stock grants. The fair value of each option award granted is estimated on the date of grant using a Black-Scholes option valuation model. Expected volatilities are based on the historical volatility of the Company's stock. The expected term of options granted to employees is derived utilizing the simplified method which represents the period of time that options granted are expected to be outstanding. The Company utilizes the simplified method because it does not have historical exercise data which is sufficient to provide a reasonable basis to estimate the expected term. The Company expects to continue utilizing the simplified method to determine the expected term until such time as it accumulates historical exercise data that will provide a sufficient basis for the Company to begin estimating the expected term for option exercises. The risk-free rate for periods within the contractual life of the option is based on the U.S. Treasury yield curve at the time of grant.

During the years ended December 31, 2010, 2009 and 2008, the Company recognized non-cash general and administrative expenses for stock options and restricted stock awards of approximately \$0.3 million, \$1.3 million and \$5.2 million, respectively.

### **Concentrations**

The Company has generally been able to obtain component parts from multiple sources without difficulty. Nevertheless, because of price and quality considerations, in 2005, the Company began utilizing three manufacturers to supply virtually all of its needs, as the Company's results could be adversely affected if manufacturing were delayed or curtailed.

### **Reclassifications**

Certain amounts in prior years' financial statements have been reclassified to conform to current year presentation.

### **New Accounting Pronouncements**

#### *Recently Adopted or Issued Accounting Standards*

There are no recently adopted or issued accounting standards that, when adopted or upon adoption, are expected to have a material impact on the Company's financial statements.

## 2. Loans Receivable and Accrued Interest

On February 16, 2006 the Company committed to a loan agreement with SulphCo KorAsia (formerly known as OIL-SC, Ltd.) of South Korea. The agreement called for advances of \$50,000 per month through May 15, 2006. A total of \$150,000 was advanced through May 2006. An additional \$50,000 was advanced on June 6, 2006 under the same terms as the original note and in November 2006, an additional \$75,000 was advanced, with a revision to the loan agreement that the full \$275,000 in advances and related interest would be immediately repaid from revenues or from proceeds of any equity financings. Interest accrues at prime rate plus 1% per annum. Interest accrued since February 16, 2006 totals approximately \$0.1 million. Based on the fact that SulphCo KorAsia has never had material revenue streams and considering that there continues to be a high level of uncertainty regarding when, if ever, it will generate material revenue streams, the Company has established an allowance for doubtful collection equal to the total principal balance and accrued interest thereon.

The Company also holds a refundable deposit of SulphCo KorAsia, which may be available to offset the loan receivable, should there be a final determination that SulphCo KorAsia could not repay the loan and accrued interest (see Note 7).

## 3. Property and Equipment

The following is a summary of property and equipment at cost, less accumulated depreciation:

	<u>2010</u>	<u>2009</u>
Equipment	\$ 1,038,442	\$ 1,022,491
Computers	254,232	277,333
Office furniture	62,749	62,749
Vehicles	12,000	12,000
Leasehold improvements	97,472	94,472
	<u>\$ 1,464,895</u>	<u>\$ 1,469,045</u>
Less: Accumulated depreciation	(1,307,637)	(1,205,050)
Total	<u>\$ 157,258</u>	<u>\$ 263,995</u>

Depreciation expense was approximately \$0.1 million, \$0.2 million and \$0.1 million for the years ended December 31, 2010, 2009 and 2008, respectively.

#### 4. Intangible Assets

As of December 31, 2010, the Company had eight (8) U.S. patents, one (1) U.S. patent pending, fifty-two (52) foreign patents, and forty-nine (49) foreign patents pending. At December 31, 2010 and 2009, the Company had capitalized approximately \$0.9 million and \$1.2 million, respectively, in costs that were incurred in connection with filing patents and trademarks related to internally developed technology. Accumulated amortization as of December 31, 2010 and 2009 was approximately \$0.2 million and \$0.2 million, respectively. During the years ended December 31, 2010, 2009 and 2008 the Company capitalized intangible assets of approximately \$0.05 million, \$0.1 million, and \$0.2 million, respectively and wrote-off previously capitalized costs of approximately \$0.4 million in 2010 for a family of patents no longer considered useful by the Company.

Patents and trademarks are amortized using the straight-line method over their estimated period of benefit, ranging from 10 to 20 years with a weighted average of 16.5 years. Amortization expense related to patents and trademarks for the years ended December 31, 2010, 2009, and 2008 was approximately \$0.3 million, \$0.1 million and \$0.1 million, respectively. Maintenance costs of approximately \$0.1 million and \$0.1 million were expensed throughout 2010 and 2009, respectively.

The following table reflects management's estimate for amortization expense, using the straight-line method, for the next five years based on current capitalized amounts and estimated lives:

Years	Estimated Amortization Expense
2011	\$ 50,000
2012	\$ 50,000
2013	\$ 50,000
2014	\$ 50,000
2015	\$ 50,000

#### 5. Investment in Joint Venture

In November 2005, the Company and Trans Gulf Petroleum Co. ("Trans Gulf"), a Government of Fujairah company, formed FOT, a United Arab Emirates limited liability company, to implement the Company's Sonocracking™ desulfurization technology. FOT is 50% owned by Trans Gulf and 50% owned by the Company. Fujairah is one of the seven Emirates of the United Arab Emirates. Under the terms of the joint venture, the Company is responsible for contributing its Sonocracking™ units and the facility that houses them including bearing all costs relating thereto. Operation and maintenance of the Fujairah test facility is the responsibility of FOT.

The joint venture agreement contemplates that profits and losses will be shared on a 50/50 basis between Trans Gulf and the Company. The Company's 50% share of distributions made by the joint venture will also be subject to other costs and expenses incurred directly by the Company from time to time. The Company is uncertain that it will be able to recover its investment in FOT. Accordingly, the carrying value of the investment has been reduced to zero at December 31, 2010 and 2009, respectively. Going forward, and to the extent that the Company continues to incur costs in excess of its investment in FOT, these costs will be recognized by the Company as research and development costs.

## 6. Income Taxes

The Company has incurred net operating losses since inception. As of December 31, 2010, the Company has net operating loss ("NOL") carry-forwards for federal income tax purposes of approximately \$78.1 million available to reduce future taxable income, which expire at various dates beginning in 2019 through 2030. The Company also has federal research and development tax credit carry-forwards of approximately \$1.2 million available to reduce future tax liabilities, which expire at various dates beginning in 2009 through 2027.

The significant components of the Company's deferred tax assets and liabilities at December 31, 2010 and 2009 were as follows:

	<u>December 31, 2010</u>	<u>December 31, 2009</u>
Deferred tax assets relative to the following:		
Net operating loss carry-forwards	\$ 26,557,561	\$ 24,362,066
Research and development credit carry-forwards	1,220,798	1,047,242
Capitalized research and development costs	8,379,340	8,242,016
Deferred share-based compensation	1,901,115	1,901,115
Expensed receivables	122,786	170,024
Depreciable assets	-	43,763
Late registration payment and accrued interest	97,537	132,541
Other	-	38,340
Total deferred tax assets prior to offsets	<u>\$ 38,279,137</u>	<u>\$ 35,937,107</u>
Current portion	\$ 220,323	\$ 340,905
Non-current portion	<u>38,058,814</u>	<u>35,596,202</u>
	<u>\$ 38,279,137</u>	<u>\$ 35,937,107</u>
Liabilities		
Deferred tax liabilities relative to the following:		
Patent costs and other	\$ (276,650)	\$ (334,959)
Total deferred tax liabilities prior to offsets (all non- current)	<u>\$ (276,650)</u>	<u>\$ (334,959)</u>
Current portion	\$ 220,323	\$ 340,905
Non-current portion	<u>37,782,164</u>	<u>35,261,243</u>
Total deferred tax assets	<u>\$ 38,002,487</u>	<u>\$ 35,602,148</u>
Valuation allowance	<u>\$ (38,002,487)</u>	<u>\$ (35,602,148)</u>
Net deferred tax assets	<u>\$ -</u>	<u>\$ -</u>

The Company has evaluated the positive and negative evidence bearing upon the realizability of its deferred tax assets, which are comprised principally of NOL carryforwards. The Company has determined at this time that it is more likely than not that the Company will not recognize the benefits of its federal deferred tax asset. For the years ended December 31, 2010 and 2009, the valuation allowance was increased by approximately \$2.4 million and \$1.9 million, respectively.

A reconciliation of the expected income tax provision (benefit) using the federal statutory income tax rate to the Company's effective income tax rate is as follows for the years ended December 31, 2010, 2009, and 2008:

	December 31, 2010	December 31, 2009	December 31, 2008
Income tax computed at federal statutory rate	34.0%	34.0%	34.0%
Permanent differences	(2.2)%	(4.7)%	(1.7)%
Change in valuation allowance	(31.8)%	(29.3)%	(32.3)%
Provision (benefit) for income taxes	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>

The Company has not taken a tax position that, if challenged, would have a material effect on the financial statements or the effective tax rate for the years ended December 31, 2010, 2009 and 2008.

The Company recognizes interest and penalties related to uncertain tax positions in income tax expense. As of December 31, 2010, it had no accrued interest or penalties related to uncertain tax positions.

All tax years up through December 31, 2009 remain open to examination by major taxing jurisdictions to which the Company is subject.

#### **7. Refundable Deposit**

In 2005, the Company received \$550,000 from SulphCo KorAsia (formerly known as OIL-SC, Ltd.), pursuant to an equipment sale and marketing agreement. As this amount is fully refundable if the pilot plant does not ultimately meet the agreed specifications, no portion of the purchase price has been or will be recorded as revenue in the Company's financial statements until the pilot plant meets all agreed specifications. The Company does not have an equity interest in SulphCo KorAsia.

#### **8. Accrued Fees and Interest**

As of December 31, 2010 and 2009, the Company had accrued late registration fees of approximately \$0.2 million, and interest thereon of approximately \$0.2 million at each year end, in conjunction with the private placements in 2004. For the years ended December 31, 2010, 2009 and 2008, interest expense associated with accrued late fees was approximately \$37,000, \$38,000 and \$0.1 million, respectively.

#### **9. Convertible Notes Payable**

At December 31, 2008, the Company had outstanding convertible notes payable of approximately \$4.7 million (the "Convertible Notes Payable"). The Convertible Notes Payable were presented net of the unamortized discount related to a beneficial conversion feature present in the terms of the note. The discount was accreted into the statement of operations as incremental interest expense using the effective interest method through July 29, 2009. Interest on the Convertible Notes Payable adjusted quarterly based on a London Inter-Bank Offering Rate ("LIBOR") plus 0.5% per annum, with interest only payments due on December 31<sup>st</sup> of each year during the term of the Convertible Notes Payable. During the years ended December 31, 2010, 2009 and 2008, the Company recognized total interest expense of approximately zero, \$0.9 million and \$1.2 million, respectively. For the years ended December 31, 2010, 2009 and 2008, total interest expense recognized by the Company included incremental interest expense associated with discount accretion of approximately zero, \$0.8 million and \$0.8 million, respectively. On July 29, 2009, the Company made full cash payment of the outstanding principal balance and all accrued but unpaid interest thereon.

## 10. Deemed Dividends

On March 12, 2007, the Company executed Amendment No. 1 to Securities Purchase Agreements and Warrants (“Amendment No. 1”) with certain warrant holders (the “Warrant Holders”) who had been issued warrants by the Company in 2004 (“2004 Warrants,” and holders of 2004 Warrants, “2004 Warrant Holders”) and in 2006 (“2006 Warrants,” and holders of 2006 Warrants, “2006 Warrant Holders”) that provided inducements to encourage the Warrant Holders to exercise their respective warrants. As consideration for Warrant Holders exercising their respective warrants, the Company agreed that it would:

- reduce the exercise price on warrants to acquire 4,000,000 shares of the Company’s common stock held by the 2006 Warrant Holders from \$6.805 per share to \$2.68 per share; and
- issue the Warrant Holders additional warrants, with an exercise price of \$2.68 per share, on a one to one basis for each existing warrant that was exercised including granting up to 1,952,068 warrants to the 2004 Warrant Holders and up to 4,000,000 warrants to the 2006 Warrant Holders.

As a result of the inducements included in Amendment No. 1 described above, during the quarter ended March 31, 2007, 1,952,068 warrants held by the 2004 Warrant Holders and 2,000,000 warrants held by the 2006 Warrant Holders were exercised resulting in the grant of 3,952,068 additional warrants (the “March 2007 Warrants”). As a result of the inducements, the Company recorded a non-cash deemed dividend of approximately \$11.5 million. The amount of the deemed dividend was estimated to be equal to the sum of the fair value of the inducements as the sum of (1) the incremental fair value conveyed to the 2006 Warrant Holders by the reduction of the exercise price of the 2006 Warrants determined as provided in the Stock Compensation Topic of the FASB Accounting Standards Codification utilizing the Black-Scholes Valuation Model and (2) the fair value of the 3,952,068 March 2007 Warrants estimated using the Black-Scholes Valuation Model.

During the quarter ended June 30, 2007, 600,000 2006 Warrants held by the 2006 Warrant Holders were exercised resulting in the grant of 600,000 additional warrants. As a result, the Company recorded additional non-cash deemed dividends of approximately \$1.7 million that was estimated using the Black-Scholes Valuation Model.

During the quarter ended September 30, 2007, the remaining 1,400,000 warrants held by the 2006 Warrant Holders were exercised resulting in the grant of 1,400,000 additional warrants. As a result, the Company recorded additional non-cash deemed dividend of approximately \$3.9 million that was estimated using the Black-Scholes Valuation Model.

On November 28, 2007, the Company executed Amendment No. 2 to Securities Purchase Agreements and Warrants (“Amendment No. 2”) with certain of the Warrant Holders holding approximately 3.95 million of the then outstanding March 2007 Warrants wherein the Warrant Holders agreed to exercise up to 50% of their March 2007 Warrants. In exchange, SulphCo agreed to issue the Warrant Holders additional warrants (the “November 2007 Warrants”) on a one-to-one basis with an exercise price of \$7.00 per share and a term of three years. In addition, the Warrant Holders were granted an option to exercise the remaining 50% of their March 2007 Warrants on the later of April 15, 2008, or 30 days following the 2008 Annual Meeting of Stockholders in which SulphCo’s stockholders approve an increase of 10 million authorized common shares. If this option were exercised, then SulphCo would issue the Warrant Holders additional warrants on a one-to-one basis with an exercise price of \$7.00 a share and a term of three years. As a result of the inducement described above 1,976,570 of the March 2007 Warrants held by the Warrant Holders were exercised in November 2007 resulting in a grant of 1,976,750 additional warrants (the “November 2007 Warrants”). Based on its analysis, the Company concluded that a deemed dividend should be recorded to account for the fair value of the inducement that was transferred to the Warrant Holders computed as the fair value of the 1,976,750 November 2007 Warrants issued to the Warrant Holders. Based on the Black-Scholes valuation prepared for this transaction, the Company recognized a non-cash deemed dividend of approximately \$7.3 million.

In May 2008, 1,953,088 of the March 2007 Warrants held by the Warrant Holders were exercised resulting in the grant of 1,953,088 additional warrants (the "May 2008 Warrants"). Based on its analysis, the Company concluded that a deemed dividend should be recorded to account for the fair value of the inducement that was transferred to the Warrant Holders computed as the fair value of the 1,953,088 May 2008 Warrants issued to the Warrant Holders. Based on the Black-Scholes valuation prepared for this transaction, the Company recognized a non-cash deemed dividend was approximately \$4.1 million.

Given the preferential nature of the modifications to these stock purchase warrants, the Company concluded that it should present the non-cash deemed dividend amount as an adjustment to net loss to arrive at net loss available to common shareholders and similarly adjust earnings per share. For the years ended December 31, 2010, 2009 and 2008, the Company recognized non-cash deemed dividends of approximately zero, zero, and \$4.1 million, respectively.

## **11. Commitments and Contingencies**

### **Commitments under Operating Leases**

In May 2007, the Company entered into an operating lease agreement for office space in Houston, Texas having a term of 60 months. In October 2009 the Company amended the original lease agreement, acquiring additional warehouse and office space. The lease for these spaces will expire mid-year 2013.

Following is a schedule of approximate future minimum lease payments required under non-cancelable operating lease agreements:

2011	\$ 240,000
2012	240,000
2013	120,000
Thereafter	-
Total future minimum lease payments	<u>\$ 600,000</u>

The Company recognized approximately \$0.3 million, \$0.2 million, and \$0.1 million for net rent expense in 2010, 2009, and 2008, respectively.

### **Concentrations of Credit Risk**

Substantially all of the Company's cash and cash equivalents are maintained with two major U.S. financial institutions. The majority of the Company's cash equivalents are invested in a money market fund that invests primarily in U.S. Treasury securities and repurchase agreements relating to those instruments. Investments in this fund are not insured by or guaranteed by the Federal Deposit Insurance Corporation or any other governmental agency. Generally, these deposits may be redeemed upon demand and therefore, management believes that they bear minimal risks. The Company has not experienced any losses in such accounts, nor does management believe it is exposed to any significant credit risk.

## **Litigation Contingencies**

There are various claims and lawsuits pending against the Company arising in the ordinary course of the Company's business. Although the amount of liability, if any, against the Company is not reasonably estimable, the Company is of the opinion that these claims and lawsuits will not materially affect the Company's financial position. In the past, the Company has expended significant resources for its legal defense. In the future, the Company will devote resources to its legal defense as necessary.

The following paragraphs set forth the status of litigation and other contingencies as of December 31, 2010.

### Clean Fuels Litigation

In *Clean Fuels Technology v. Rudolf W. Gunnerman, Peter Gunnerman, RWG, Inc. and SulphCo, Inc.*, Case No. CV05-01346 (Second Judicial District, County of Washoe) the Company, Rudolf W. Gunnerman, Peter Gunnerman, and RWG, Inc., were named as defendants in a legal action commenced in Reno, Nevada (the "Clean Fuels Litigation"). The plaintiff, Clean Fuels Technology later assigned its claims in the lawsuit to EcoEnergy Solutions, Inc., which entity was substituted as the plaintiff. In general, the plaintiff's claims related to ownership of the "sulfur removal technology" originally developed by Professor Teh Fu Yen and Rudolf W. Gunnerman with financial assistance provided by Rudolf W. Gunnerman, and subsequently assigned to the Company. On September 14, 2007, after a jury trial and extensive post-trial proceedings, the trial court entered final judgment against the plaintiff EcoEnergy Solutions, Inc. on all of its claims. As per the final judgment, all of the plaintiff's claims were resolved against the plaintiff and were dismissed with prejudice. In addition, the trial court entered judgment in favor of the Company and against the plaintiff for reimbursement of legal fees and costs of approximately \$124,000, with post-judgment interest. The plaintiff appealed the judgment on October 5, 2007. On August 3, 2009, the Nevada Supreme Court affirmed the court's Order and judgment in its entirety. The Nevada Supreme Court then denied EcoEnergy's request for a rehearing on September 25, 2009 and further denied EcoEnergy's Petition for En Banc Reconsideration on November 17, 2009. On December 15, 2009, the Nevada Supreme Court restored jurisdiction to the district court for any post-appeal issues. Since that time, the Company received legal fees, costs, and interest awarded to it under the judgment from EcoEnergy. The Company then moved the district court for an award of legal fees and costs incurred on appeal. The district court granted the award and the Company received approximately \$120,000 in March 2010 for costs incurred in connection with the appeal bringing this matter to a final conclusion.

### Talisman Litigation

In *Talisman Capital Talon Fund, Ltd. v. Rudolf W. Gunnerman and SulphCo, Inc.*, Case No. 05-CV-N-0354-BES-RAM, the Company and Rudolf W. Gunnerman were named as defendants in a legal action commenced in federal court in Reno, Nevada. The plaintiff's claims relate to the Company's ownership and rights to develop its "sulfur removal technology." The Company regards these claims as without merit. Following a trial, on May 14, 2009, the court entered a judgment in favor of the Company and dismissed all claims with prejudice. On July 21, 2010, the Ninth Circuit Court of Appeals affirmed the trial court's judgment. The time frame within which the plaintiff had to file an appeal to the Ninth Circuit Court's affirmative ruling passed without any appeal being filed by the plaintiff resulting in this matter becoming final and non-appealable. No liability has been accrued relative to this action.

### Hendrickson Derivative Litigation

On January 26, 2007, Thomas Hendrickson filed a shareholder derivative claim against certain current and former officers and directors of the Company in the Second Judicial District Court of the State of Nevada, in and for the County of Washoe. The case was known as Thomas Hendrickson, Derivatively on Behalf of SulphCo, Inc. v. Rudolf W. Gunnerman, Peter W. Gunnerman, Loren J. Kalmen, Richard L. Masica, Robert Henri Charles Van Maasdijk, Hannes Farnleitner, Michael T. Heffner, Edward E. Urquhart, Lawrence G. Schafran, Alan L. Austin, Jr., Raad Alkadiri and Christoph Henkel, Case No. CV07-00187, Dept. No. B6. The complaint alleged, among other things, that the defendants breached their fiduciary duty to the Company by failing to act in good faith and diligence in the administration of the affairs of the Company and in the use and preservation of its property and assets, including the Company's credibility and reputation. On April 12, 2007 the Company and individual defendants filed a motion to dismiss, based upon the plaintiff's failure to make a demand upon the Board of Directors and failure to state a claim. On July 3, 2007, the parties filed a Stipulation of Voluntary Dismissal Without Prejudice (the "Stipulation"). The Stipulation provided that in connection with the dismissal of this action each of the parties will bear their own costs and attorney fees and thereby waive their rights, if any, to seek costs and attorney fees from the opposing party. Further, neither the plaintiff nor his counsel received any consideration for the dismissal of this action.

In September of 2007, the Company's Board of Directors received a demand letter (the "Hendrickson Demand Letter") from Mr. Hendrickson's attorney reasserting the allegations contained in the original derivative claim and requesting that the Board of Directors conduct an investigation of these matters in response thereto. In response to the Hendrickson Demand Letter, the Company's Board of Directors formed a committee comprised of three independent directors (the "Committee") to evaluate the Hendrickson Demand Letter and to determine what action, if any, should be taken. The Committee retained independent counsel to advise it.

On September 2, 2008, the Company's Board of Directors held a special meeting for the purpose of hearing and considering the Committee's report and recommendation. At that meeting, the Committee reported on its investigation and presented the Committee's unanimous recommendation that no actions be brought by the Company based upon the matters identified in the Hendrickson Demand Letter. The Board of Directors unanimously adopted the Committee's recommendation. SulphCo communicated this conclusion to Mr. Hendrickson's counsel in mid-September 2008.

On November 6, 2008, Mr. Hendrickson re-filed the shareholder derivative claim in the 127th Judicial District Court of Harris County, Texas (the "District Court"). The case is known as Thomas Hendrickson, Derivatively on Behalf of SulphCo, Inc. v. Rudolf W. Gunnerman, Peter W. Gunnerman, Loren J. Kalmen, Richard L. Masica, Robert Henri Charles Van Maasdijk, Hannes Farnleitner, Michael T. Heffner, Edward E. Urquhart, Lawrence G. Schafran, Alan L. Austin, Jr., Raad Alkadiri and Christoph Henkel, Case No. 200866743 (the "Texas Derivative Claim"). The Company responded to this litigation by moving to dismiss and the individual defendants responded by moving to dismiss for lack of personal jurisdiction.

On June 30, 2010, the District Court preliminarily approved a proposed settlement regarding the Texas Derivative Claim. The District Court held a final settlement hearing on August 13, 2010 at which time the settlement became final. The final settlement, among other actions, resulted in the dismissal of the claims asserted in the Texas Derivative Claim with prejudice. The terms of the final settlement included an award of \$300,000, to the plaintiff's counsel for fees and reimbursement of expenses. Since the Company has previously met its director and officer liability insurance policy deductible, the monetary award made in connection with the settlement was borne by the director and officer liability insurance policy and therefore did not have any impact on the financial condition of the Company. The final settlement became non-appealable 40 days after the date the final settlement was entered by the District Court and the payment of the award of \$300,000 to the plaintiff's counsel for fees and reimbursement of expenses was made by the insurance company shortly thereafter. No relief is sought against the Company and no liability has been accrued relative to this action.

### NYSE Amex LLC Listing Standards Deficiency

On June 30, 2010, we were notified of our failure to comply with the NYSE Amex LLC's (the "Exchange") continued listing standards under section 1003 of the Company Guide. Specifically, the Exchange noted our failure to comply with section 1003(a) (iii) of the Exchange's Company Guide because our stockholders' equity was less than \$6,000,000 and we had losses from continuing operations and net losses in our five most recent fiscal years. The notice was based on a review by the Exchange of our publicly available information, including the Company's quarterly report on Form 10-Q for the quarter ended March 31, 2010, at which time the Company's stockholders' equity was approximately \$5.3 million. As of June 30, 2010, the Company's stockholders' equity was approximately \$3.3 million resulting in our failure to comply with Section 1003(a)(ii) of the Company Guide because our stockholders' equity was less than \$4,000,000 and we had losses from continuing operations and net losses in three of our four most recent fiscal years. As of September 30, 2010, the Company's stockholders' equity was approximately \$1.7 million resulting in our failure to comply with Section 1003(a)(i) of the Company Guide because our stockholders' equity was less than \$2,000,000 and we had losses from continuing operations and net losses in two of our three most recent fiscal years. During the week ended July 30, 2010, we submitted to the Exchange a plan outlining our efforts to regain compliance with the Exchange's continued listing requirements. The plan consisted of several elements, but primarily focused on the sales of our products and services and raising additional equity capital. On September 20, 2010, the Company received notice from the Exchange indicating that the Exchange had accepted the Company's plan of compliance. In accepting the Company's plan, the Exchange granted the Company an extension until December 30, 2011 for the continued listing of the Company's common stock and for the Company to regain compliance with the Exchange's continued listing standards, subject to quarterly progress review by the Exchange. At the request of the Exchange, on December 28, 2010 and February 9, 2011, the Company submitted updates of the plan initially submitted to the Exchange in July 2010. If (i) our plan is not accepted, (ii) we do not make progress toward compliance consistent with the plan, or (iii) we are not in compliance at the end of the plan period, then our shares of common stock may be subject to delisting proceedings by the Exchange. If the Exchange delists our common stock, we anticipate that our common stock would be quoted on the OTC Bulletin Board or possibly the so-called "pink sheets." Even if our common stock is quoted on such systems, a delisting by the Exchange could harm our investors by reducing the liquidity and market price of our common stock. Additionally, a delisting could negatively affect us by reducing the number of investors willing to hold or acquire our common stock, which could negatively affect our ability to access public capital markets. If the Company is not listed on a national exchange and/or if our public float remains below \$75 million, it will be limited in its ability to file new shelf registration statements on Form S-3 and/or to fully use one or more registration statements on Form S-3 that have been filed with the Securities and Exchange Commission. Any such limitations may have a material adverse effect on the Company's ability to raise the capital needed to continue its operations.

### **12. Common Stock**

Other than stock based compensation disclosed in Note 13 and related party transactions disclosed in Note 15, the Company had the following transactions related to its common stock during the years ended December 31, 2010, 2009, and 2008:

#### **Year Ended December 31, 2010**

In January 2010, the Company completed the sale of 11,764,712 equity units at a price of \$0.51 per unit pursuant to the terms of a Placement Agency Agreement dated January 25, 2010, resulting in gross proceeds to the Company of approximately \$6.0 million before transaction costs. Each equity unit consists of (i) one share of common stock, (ii) a 2-year warrant to purchase one half of a share of common stock at an exercise price of \$0.70, and (iii) a 5-year warrant to purchase one half share of a share of common stock at an exercise price of \$1.00. The shares of common stock and shares of common stock issuable upon the exercise of the warrants that comprise the equity units are registered on a shelf registration statement on Form S-3 declared effective by the SEC on September 4, 2007. Net proceeds to the Company from this transaction were approximately \$5.4 million.

**Year Ended December 31, 2009**

At the Annual Meeting of Stockholders held on June 17, 2009, the Company's stockholders approved an increase in the number of authorized shares of the Company's capital stock by 40 million shares by increasing the authorized shares of common stock, par value \$0.001 from 110 million to 150 million shares.

**Year Ended December 31, 2008**

At a Special Meeting of Stockholders held on February 26, 2008, the Company's stockholders approved an increase in the number of authorized shares of the Company's capital stock to 120 million shares by increasing the authorized shares of common stock, par value \$0.001 from 100 million to 110 million.

During the quarter ended June 30, 2008, the Company completed two equity transactions. The first involved the sale of 6,818,750 shares of its common stock at a price of \$3.20 per share pursuant to the terms of a Securities Purchase Agreement dated May 27, 2008, resulting in net proceeds to the Company of approximately \$20.3 million before transaction costs. The shares were registered in a shelf registration statement on Form S-3 declared effective by the SEC on September 4, 2007. The second involved the exercise by investors of warrants to acquire approximately 1.9 million shares of the Company's common stock at an exercise price of \$2.68 per share resulting in net proceeds to the Company of approximately \$5.2 million. Between these two transactions, the Company raised net proceeds totaling approximately \$25.5 million.

During the quarter ended June 30, 2008, the Company entered into an equity line of credit with Azimuth Opportunity Ltd. ("Azimuth") pursuant to a Common Stock Purchase Agreement dated April 30, 2008. Subject to the conditions set forth in that agreement, Azimuth is committed to purchase up to \$60,000,000 of the Company's common stock pursuant to draw down notices that the Company may give to Azimuth from time to time at the Company's discretion until November 1, 2009. The price of shares sold is determined by reference to the volume weighted average price of the Company's common stock during a 10 trading day pricing period at the time of each draw down notice, less a small discount.

On July 9, 2008, the Company entered into a Confidential Settlement Agreement and Release with Mark Neuhaus (the "Settlement Agreement"), by which Mr. Neuhaus and the Company agreed to dismiss the respective legal proceedings each party had initiated on the other, and by which both parties agreed to a mutual release. The total consideration paid by the Company to Mr. Neuhaus under the Settlement Agreement was \$750,000, of which \$250,000 was paid in cash and the remaining \$500,000 was settled by issuance of 123,763 shares of the Company's common stock to Mr. Neuhaus and 123,762 shares of the Company's common stock to Mr. Neuhaus' attorneys, Erickson, Thorpe & Swainston, Ltd, which amount was determined by dividing \$500,000 by \$2.02, the closing price of the Company's stock on July 9, 2008.

### Warrants Outstanding at December 31, 2010

As of December 31, 2010, we had warrants outstanding for 15,988,480 shares of our common stock, at the exercise prices and expiration dates, set forth below. Warrants entitle the holder to purchase shares of our common stock, as applicable, at the specified exercise price at any time prior to the expiration date.

<u>Number of Shares</u>	<u>Exercise price</u>	<u>Expiration date</u>
1,976,570	\$ 7.00	February 13, 2011
1,953,088	\$ 7.00	August 7, 2011
6,176,470	\$ 0.70	January 29, 2012
5,882,352	\$ 1.00	January 29, 2015

### 13. Stock Plans and Share-Based Compensation

In accordance with the Stock Compensation Topic of the FASB Accounting Standards Codification, the Company records stock-based compensation expense for all share-based payment arrangements, including stock options, warrants and restricted stock grants. The fair value of each option award granted is estimated on the date of grant using a Black-Scholes option valuation model. Expected volatilities are based on the historical volatility of the Company's stock. The expected term of options granted to employees is derived utilizing the simplified method which represents the period of time that options granted are expected to be outstanding. The Company utilizes the simplified method because it does not have historical exercise data which is sufficient to provide a reasonable basis to estimate the expected term. The Company expects to continue utilizing the simplified method to determine the expected term until such time as it accumulates historical exercise data that will provide a sufficient basis for the Company to begin estimating the expected term for option exercises. The risk-free rate for periods within the contractual life of the option is based on the U.S. Treasury yield curve at the time of grant.

For the years ended December 31, 2010, 2009 and 2008, the Company used the following information to value option grants:

	<u>2010</u>	<u>2009</u>	<u>2008</u>
Expected Volatility	122% - 124%	126% - 143%	93% - 151%
Expected Dividend Yield	-	-	-
Expected Term (in years)	5.0 - 6.0	5.0 - 6.5	1.5 - 9.5
Risk Free Rate	1.5% - 2.4%	1.5% - 2.8%	1.6% - 3.6%

### Stock Option Plans

We maintain the 2006 Stock Option Plan (the "2006 Plan") and the 2008 Omnibus Long-Term Incentive Plan (the "2008 Plan"), which are collectively referred to as the "Stock Plans." Under our Stock Plans, incentive and nonqualified stock options are granted to eligible participants. The exercise price of options granted pursuant to the Stock Plans shall be at least 100 percent of the fair value of the Company's common stock on the date of grant. Options are generally granted for a term of 10 years and become exercisable at such times as determined by the Compensation Committee. Certain stock options provide for accelerated vesting if there is a change in control. As of December 31 2010, approximately 3.3 million shares are available for future grants of awards under the Stock Plans.

The following table summarizes the activity for our options for the 12 months ended December 31, 2010:

	<u>Number of Shares</u>	<u>Weighted Average Exercise Price</u>
Options outstanding, December 31, 2009	4,469,885	2.77
Options granted	2,625,000	0.39
Options exercised	-	-
Options forfeited	(1,258,500)	0.64
Options outstanding, December 31, 2010	<u>5,836,385</u>	2.15
Options exercisable and vested	<u>4,468,219</u>	2.65

Options outstanding at December 31, 2010, had a weighted average remaining contractual life of approximately 7.8 years and are out-of-the money with no intrinsic value. Options exercisable at December 31, 2010, had a weighted average remaining contractual life of approximately 7.4 years and are out-of-the money with no intrinsic value. The weighted average grant date fair value of stock options granted in 2010, 2009 and 2008 was \$0.33, \$0.77, and \$2.97, respectively.

Of the 2,625,000 stock options granted to the Company's directors, officers and employees during 2010, 1,150,000 were performance-based stock options granted to the Company's directors and executive officers. The performance-based stock options have an exercise price of \$0.37 with a grant date fair value of approximately \$360,000, a term of ten years from the grant date and vest on a graduated basis over a 12 month period subject to the achievement of certain commercial milestones. If the commercial milestones are not achieved within the graduated vesting periods, these performance-based stock options will be forfeited. The Company assesses the probability of the achievement of the commercial milestones at the end of each reporting period. If the Company determines that achievement of the commercial milestones before the end of a vesting period is probable, it records the fair value of the awards over the remaining vesting period. If the Company's assessment of the probability regarding achievement of the commercial milestones changes, future accruals of stock-based compensation expense will be adjusted and a cumulative catch-up adjustment will be recorded in that reporting period. As of December 31, 2010, the Company has not recorded any stock-based compensation expense related to these performance-based stock options granted during the year ended December 31, 2010.

#### *Other Options*

In addition to options available for issuance under the Stock Plans, the Company has previously granted other options and warrants (the "Other Options") to non-employees and consultants. At December 31, 2010 there were 50,000 Other Options, granted in 2008, that are outstanding, exercisable, and vested. The weighted average grant date fair value of Other Options granted in 2008 was \$2.22 per share.

### Summary Option Information

The following table summarizes information about all stock options outstanding as December 31, 2010:

Range of Exercise Prices	Options Outstanding			Options Exercisable		
	Number Outstanding	Weighted Average Remaining Contractual Life (in Years)	Weighted Average Exercise Price	Number Exercisable	Weighted Average Remaining Contractual Life (in Years)	Weighted Average Exercise Price
\$0.01 - \$0.99	2,867,041	8.9	\$ 0.61	1,560,541	8.4	\$ 0.77
\$1.00 - \$1.99	72,000	8.0	\$ 1.31	72,000	8.0	\$ 1.31
\$2.00 - \$2.99	447,452	5.7	\$ 2.64	385,786	5.4	\$ 2.63
\$3.00 - \$3.99	2,179,368	6.7	\$ 3.69	2,129,368	6.7	\$ 3.71
\$4.00 - \$4.99	200,000	7.0	\$ 4.96	200,000	7.0	\$ 4.96
\$5.00 - \$5.99	120,524	6.7	\$ 5.49	120,524	6.7	\$ 5.49
	<u>5,886,385</u>			<u>4,468,219</u>		

The weighted average grant date fair value of stock options granted in 2010, 2009 and 2008 was \$0.33 per share, \$0.77 per share and \$2.97 per share, respectively. The total intrinsic value of options and warrants exercised during the years ended December 31, 2010, 2009 and 2008 was approximately zero, zero, and zero, respectively. Cash received from all option and warrant exercises under all share-based payment arrangements for the years ended December 31, 2010, 2009 and 2008 was approximately zero, zero, and zero, respectively. There were no tax benefits realized for tax deductions resulting from option and warrant exercises of share-based payment arrangements for the years ended December 31, 2010, 2009 or 2008.

As of December 31, 2010, there was approximately \$0.2 million of total unrecognized compensation cost related to non-vested options. That cost is expected to be recognized on a straight line basis over the weighted average vesting period of approximately 0.6 years.

#### Restricted Stock Grants – Directors, Officers and Employees

During the year ended December 31, 2009, the Company granted 25,000 shares of its common stock to an employee.

#### Restricted Stock Grants – Non-Employees

During the year ended December 31, 2008, the Company granted 50,000 shares of restricted stock to non-employees for which it recognized a charge of approximately \$0.1 million. As of December 31, 2008, all grants of restricted shares were fully vested and there were no unrecognized compensation costs relating to restricted share grants.

#### Total Share Based Compensation

During the years ended December 31, 2010, 2009 and 2008, the Company recognized total share-based compensation (for grants of stock options, warrants and restricted stock) of approximately \$0.3 million, \$1.3 million and \$5.2 million, respectively.

#### **14. Employee Benefit Plans**

During the year ended December 31, 2007, the Company adopted a qualified defined contribution retirement plan (the "401(k) Plan") for full-time employees. The 401(k) Plan provides participants the opportunity to make contributions ranging from 1 percent to 15 percent of their covered salaries or wages. The Company makes an annual minimum contribution to the 401(k) Plan equal to 3 percent of the covered participant's salaries and wages. During the years ended December 31, 2010, 2009 and 2008, the Company made or accrued minimum contributions to the 401(k) plan of approximately \$0.1 million, \$0.1 million and \$0.1 million, respectively. In addition to the annual minimum contribution the Company can make a discretionary contribution. During the years ended December 31, 2010, 2009 and 2008, no such discretionary contributions were made.

#### **15. Related Party Transactions**

Other than share-based compensation as detailed in Note 13, the following discussion sets forth related party transactions occurring during the years ended December 31, 2010, 2009, and 2008.

During the year ended December 31, 2010, the Company did not have any related party transactions.

During the years ended December 31, 2009 and 2008, the Company made payments totaling approximately \$0.9 million, and \$1.1 million, respectively, to Märkisches Werk Halver, GmbH ("MWH") in connection with ongoing probe development activities under an existing agreement. Under the terms of the agreement, MWH will continue to develop and manufacture high-volume, high-power ultrasound systems for use in SulphCo's Sonocracking process (the "Equipment") through June 2013. MWH will sell Equipment exclusively to the Company and the Company will purchase a minimum of 60% of its annual Equipment requirements from MWH. The Company may purchase a lesser percentage of Equipment from MWH if the Company can either purchase comparable equipment at a price that is 25% less than the price charged by MWH or MWH does not manufacture the Equipment within the Company's quality control specifications. In addition to the fees that MWH will receive for its probe development and manufacturing activities, MWH also received an option to purchase 50,000 shares of SulphCo common stock. Edward E. Urquhart, the Chief Executive Officer of MWH from July 2003 through May 2009, was a member of the Company's Board of Directors from August 2006 to April 2009.

The Company had a consulting contract with Vincent van Maasdijk, the son of Robert van Maasdijk who has been a member of the Company's Board of Directors since April 2005 and Chairman of the Board of Directors from January 2007 to April 2009, to serve as a project manager. As a project manager, Mr. van Maasdijk's responsibilities included overseeing the installation and testing of commercial Sonocracking™ units at various locations assigned by the Company. Under the terms of the contract, Mr. van Maasdijk received a monthly payment of approximately \$7,000 plus reimbursement of all reasonable out-of-pocket expenses, in accordance with the Company's applicable policies and procedures. In April of 2009, both parties mutually agreed not to renew the contract. For the years ended December 31, 2009 and 2008, the total expense recognized by the Company under this arrangement was approximately \$30,000 and \$103,000, respectively.

During the years ended December 31, 2009 and 2008, the Company paid approximately \$0.2 million and \$6,000, respectively, in principal and interest expense to Edward G. Rosenblum, a member of the Company's Board of Directors, in connection with approximately \$166,000 principal balance of the Company's Convertible Notes Payable, held by Mr. Rosenblum. Mr. Rosenblum acquired his interest in the Company's Convertible Notes Payable prior to joining our Board of Directors in August 2007. Mr. Rosenblum was a member of the Company's Board of Directors from August 2007 to October 2009.

Total related party expenses were approximately \$1.2 million and \$1.3 million in 2009 and 2008, respectively. Total related party cash payments were approximately \$1.2 million and \$1.3 million in 2009 and 2008, respectively.

**16. Subsequent Events**

On February 4, 2011, the Company completed the sale of 13,333,334 equity units at a price of \$0.15 per unit for aggregate gross proceeds to the Company of approximately \$2.0 million. Each equity unit consists of (i) one share of common stock, (ii) a warrant to purchase approximately 0.45 shares of SulphCo common stock at a price of \$0.20 with a term of five years and (iii) a warrant to purchase approximately 0.24 shares of SulphCo common stock at a price \$0.20 with a term of 66 months but not exercisable until 181 days after the closing date of the transaction. In addition, the Company agreed to amend and re-issue warrants to purchase 2,745,098 shares of SulphCo common stock currently held by one of the investors. The re-issued warrants – equal in number to the original warrants – will allow the holder to purchase shares of SulphCo common stock at a price of \$0.20 per share with a term of 54 months. The re-issued warrants are not exercisable until 181 days after the closing date of the transaction. The shares of common stock and shares of common stock issuable upon the exercise of the warrants that comprise the equity units and the re-issued warrant are registered on a shelf registration statement on Form S-3 declared effective by the SEC on October 20, 2010. Net proceeds to the Company from this transaction were approximately \$1.85 million.

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**17. Quarterly Financial Information (Unaudited)**

Summarized unaudited quarterly financial information for the years ended December 31, 2010, 2009 and 2008 is noted below (in thousands, except for per share amounts):

	<u>Mar. 31</u>	<u>Jun. 30</u>	<u>Sep. 30</u>	<u>Dec. 31</u>
<b><u>2010</u></b>				
Net revenues	\$ -	\$ -	\$ -	\$ -
Gross profit	\$ -	\$ -	\$ -	\$ -
Net (loss)	\$ (2,367)	\$ (2,118)	\$ (1,547)	\$ (1,575)
Net (loss) per share – basic and diluted (a)	\$ (0.02)	\$ (0.02)	\$ (0.02)	\$ (0.02)
	<u>Mar. 31</u>	<u>Jun. 30</u>	<u>Sep. 30</u>	<u>Dec. 31</u>
<b><u>2009</u></b>				
Net revenues	\$ -	\$ -	\$ -	\$ -
Gross profit	\$ -	\$ -	\$ -	\$ -
Net (loss)	\$ (4,589)	\$ (2,704)	\$ (2,584)	\$ (2,139)
Net (loss) per share – basic and diluted (a)	\$ (0.05)	\$ (0.03)	\$ (0.03)	\$ (0.02)
	<u>Mar. 31</u>	<u>Jun. 30</u>	<u>Sep. 30</u>	<u>Dec. 31</u>
<b><u>2008</u></b>				
Net revenues	\$ -	\$ -	\$ -	\$ -
Gross profit	\$ -	\$ -	\$ -	\$ -
Net (loss)	\$ (6,874)	\$ (8,973)	\$ (4,866)	\$ (4,547)
Net (loss) per share – basic and diluted (a)	\$ (0.09)	\$ (0.11)	\$ (0.05)	\$ (0.05)

(a) The sum of the individual quarterly earnings (loss) per share may not agree with year-to-date earnings (loss) per share as each quarterly computation is based on the income or loss for that quarter and the weighted average number of common shares outstanding during that period.