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CVD EQUIPMENT CORP  
Form 10KSB  
March 31, 2005

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549  
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FORM 10-KSB

(Mark One)

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

For the year ended December 31, 2004

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: 1-16525

CVD EQUIPMENT CORPORATION  
(Name of Small Business Issuer in Its charter)

New York

11-2621692

-----  
(State or Other Jurisdiction  
of Incorporation or Organization)

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

1860 Smithtown Avenue  
Ronkonkoma, New York 11779  
(Address including zip code of registrant's Principal Executive Offices)

(631) 981-7081  
(Issuer's Telephone Number, Including Area Code)

Securities registered pursuant to Section 12(b) of the Act:  
NONE

Securities registered pursuant to Section 12(g) of the Act:  
Common Stock, Par value \$0.01  
(Title of class)

Check whether the issuer: (1) filed all reports required to be filed by  
Section 13 or 15(d) of the Exchange Act during the past 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

Check if there is no disclosure of delinquent filers response to Item 405  
of Regulation S-B is not contained in this form, and no disclosure will 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-KSB or any ammendment to this Form 10-KSB.

State issuer's revenues for its most recent fiscal year. \$ 9,873,592

State 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 sold, or the average bidand asked price of such common  
equity, as of a specified date within the past 60 days: \$ 1,893,770 at March  
29, 2005.

State the number of shares outstanding of each of the issuer's classes of

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common equity, as of the latest practicable date: 3,039,100 shares of Common Stock, \$0.01 par value at March 29, 2005.

### DOCUMENTS INCORPORATED BY REFERENCE

None.

Transitional Small Business Disclosure Format (Check one): Yes [ ] No [X]

### PART I

#### Item 1. Business

Unless otherwise set forth herein, when we use the term 'we' or any derivation thereof, we mean CVD Equipment Corporation, a New York corporation, formed in 1982 (the "Company").

We design, develop, manufacture, market, install and service equipment primarily for the semiconductor industry. Our products include (1) both batch and single wafer systems used for depositing, rapid thermal processing, annealing, diffusion and etching of semiconductor films, (2) gas and liquid flow control systems, (3) ultra high purity gas and chemical piping delivery systems, (4) standard and custom quartzware and (5) reflow furnaces and rework stations for surface mounting of components onto printed circuit boards. We also provide equipment consulting and refurbishing of semiconductor processing equipment. Our products are generally manufactured as standard products or customized to the particular specifications of each of our customers.

Semiconductor components are the fundamental electronic building blocks used in modern electronic equipment and systems. These components are classified as either discrete devices (such as transistors) or integrated circuits (in which a number of transistors and other elements are combined to form a more complicated electronic circuit). In an integrated circuit, these elements are formed on a small "chip" of silicon or gallium arsenide, which is then encapsulated in an epoxy, ceramic or metal package having lead wires for connection to a circuit board. Our products are used in the manufacture and mounting of these components.

We conduct our operations through three divisions, CVD, SDC and Conceptronic. Each division operates reasonably autonomously on a day-to-day basis with its own operating manager and with sales and administration being handled by corporate managers. There is an overall corporate coordination in the day-to-day administration of the business, in establishing policy and consistently applying procedures.

#### CVD Division

Our CVD Division designs and manufactures both standard and custom equipment for the semiconductor industry. CVD's equipment, with its leading edge technology, is utilized for silicon, silicon germanium, silicon carbide and gallium arsenide processes. These processes are paramount in the semiconductor, optoelectronic and wireless communications arena.

#### SDC Division

The Stainless Design Concepts, Ltd ("SDC") division of the Company

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designs and manufactures in their Class 100 cleanroom, ultra high purity gas and chemical delivery control systems for the semiconductor industry, and also provides equipment consulting and refurbishing of semiconductor equipment. The field service group provides for contract maintenance, high purity fab and equipment installations and equipment removal.

The startup of our SDC Division provided new products for CVD to offer to the semiconductor industry and also improved the manufacturing of gas and chemical delivery systems used in most of our products.

### Conceptronic Division

In December 2001, we acquired the assets of the Surface Mount Technology division of Research Inc., known as Research International ("RI"). RI is a manufacturer of Surface Mount Technology ("SMT") reflow furnaces.

In June 2002, we purchased substantially all of the assets of Conceptronic Inc.'s Surface Mount Technology business. Conceptronic specializes in solder reflow furnaces and rework stations for the printed circuit board and chip scale package industries.

In 2002 we combined the operations of RI and Conceptronic and they are currently being reported under the Conceptronic division.

The startup of our RI and Conceptronic divisions provided a base for us to generate new and enhanced standard and custom furnace products to the semiconductor and Surface Mount Technology markets based on our own technology and technology that was purchased as part of the acquisition of assets.

### Principal Products

Chemical Vapor Deposition - A process which passes a gaseous compound over a target material surface that is heated to such a degree that the compound decomposes and deposits a desired layer onto substrate material. The process is accomplished by combining appropriate gases in a reaction chamber, of the kind produced by the Company, at elevated temperatures (typically 300-1,500 degrees Celsius). Our Chemical Vapor Deposition systems are complete and include all necessary instrumentation, subsystems and components. The systems include mass flow controllers, bellows valves, stainless steel lines and fittings. We provide such standard systems and also specifically engineered products for particular customer applications. Some of the standard systems we offer are for Silicon, Silicon-Germanium, Silicon Dioxide, Silicon Nitride, Polysilicon, Liquid Phase Epitaxial and Metalorganic Chemical Vapor Deposition.

Our Chemical Vapor Deposition systems are available in a variety of models that can be used in production and laboratory research. All models can be offered with total system automation, a microprocessor control system by which the user can measure, predict and regulate gas flow, temperature, pressure and chemical reaction rates, thus controlling the process in order to enhance the quality of the materials produced. Our standard microprocessor control system is extremely versatile and capable of supporting the complete product line and most custom system requirements. These Chemical Vapor Deposition systems range in price from \$100,000 to \$2,500,000.

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Rapid Thermal Processing ("RTP") - Used to heat semiconductor materials to elevated temperatures of 1,000 degrees Celsius at rapid rates of up to 200 degrees Celsius per second. Our RTP systems are offered for implant activation, oxidation, silicide formation and many other processes. We offer systems that can operate both at atmospheric or reduced pressures. A specific model of our RTP system is used for Thermal Desorption Spectroscopy which allows the semiconductor process engineer the ability to analyze the deposited films between the many process steps used in the complex fabrication process. Our RTP systems generally range in price from \$75,000 to \$350,000.

Annealing and Diffusion Furnaces - Used for diffusion, oxidation, implant anneal, solder reflow and other processes. The systems are normally operated at atmospheric pressure with gaseous atmospheres related to the process. An optional feature of the system allows for the heating element to be moved away from the process chamber allowing the wafers to rapidly cool or be heated in a controlled environment. Our cascade temperature control system enables more precise control of the wafers. The systems are equipped with an automatic process controller, permitting automatic process sequencing and monitoring with safety alarm provisions. Our Annealing and Diffusion Furnace systems generally range in price from \$75,000 to \$650,000.

Gas and Liquid Control Systems - Our standard and custom designed gas and liquid control systems encompassing (1) gas cylinder storage cabinets, (2) custom gas and chemical delivery systems, (3) gas and liquid valve manifold boxes (VMB's) and (4) gas isolation boxes (GIB's) to provide safe storage and handling of pressurized gases and chemicals. System design allows for automatic or manual control from both a local and remote location. The price range for our Gas and Liquid Control Systems are from \$20,000 to \$350,000.

Ultra High Purity Gas and Chemical Piping and Delivery Systems - We provide field installation of ultra high purity piping systems within a semiconductor plant for the distribution of gases and chemicals to the assorted process tools. As part of field service, we also offer repair service on customer equipment.

Quartzware - We provide standard and custom fabricated quartzware used in the Company's equipment and other customer tools. We also provide repair and replacement of existing quartzware.

Reflow Furnaces and Rework Stations - We provide a standard line for the printed circuit board and chip scale package industries.

### Markets and Marketing

During 2004, sales were made by a staff of six employees and twenty-five sales representatives whose activities were supported by a staff of twelve application engineers. We continue to work on expanding our product offerings.

Our web sites continue to see increased traffic. We have focused our efforts on being in the top listings on many search engines in order to increase the number of "hits" to our web sites.

Many of our products are used in research and production applications by the semiconductor industry. We sell our products primarily to semiconductor manufacturers, institutions involved in electronic research such as universities, government and industrial laboratories and to electronic assembly manufacturers. We have both an

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international and domestic customer base in excess of 300 customers. For the twelve months ended December 31, 2004 approximately 32% of our revenues were generated from foreign exports compared to the twelve months ended December 31, 2003 which generated revenues from foreign exports equaling 26%. Sales to a single customer in any one year can exceed 10.0% of our total sales; however, we are not dependent on any single customer. In 2004 and 2003, one customer, which is a distributor, represented 16.7% and 12.0% of our total sales, respectively. In 2004, no other customer represented more than 8.2% of our total sales and in 2003, one other customer represented 13.4% of our total sales.

### Warranties

We warrant our equipment for a period of twelve to twenty four months after shipment, depending on the product, and pass along any warranties from original manufacturers of components used in our products. We provide for our own equipment servicing with in-house field service personnel. Warrantee costs have been historically insignificant.

### Competition

Our business is subject to intense competition. We are aware of other competitors that offer a substantial number of products comparable to ours. Many of our competitors (including customers who may elect to manufacture systems for internal use) have financial, marketing and other resources greater than ours. To date, we have been able to compete in markets that include these competitors, primarily on the basis of price, technical performance, quality and delivery.

### Sources of Supply

We do not manufacture many components used in producing our products. They are purchased from unrelated third-party manufacturers of such equipment. We do not have any supply contracts covering these components. We are not dependent on a principal or major supplier and alternate suppliers are available. We do not use a large amount of raw or difficult to obtain materials that could cause a problem in production of our equipment.

We have our own fully equipped machine shop to fabricate in house, the most complex designed parts of our equipment. Our previous investment in CNC machines for the machine shop has increased our efficiencies while significantly reducing costs in production. Similarly, our own quartz shop is capable of meeting our quartzware needs.

Materials procured from the outside and/or manufactured internally undergo a rigorous quality control process to ensure that the parts meet or exceed the most stringent specifications. All equipment, upon final assembly, undergoes a final series of complete testing to ensure maximum product performance.

### Backlog

As of December 31, 2004 our order backlog was approximately \$2,430,000 compared to approximately \$1,738,000 at December 31 2003, an increase of 39.8%. The increase can primarily be attributed to our CVD Division which began to experience an increase in orders at the beginning of the fourth quarter. The timing for completion of the backlog varies depending on the product mix, however, there is generally a one to six

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month lag in the completion and shipping of backlogged product. Included in the backlog are all accepted purchase orders. Order backlog is usually a reasonable management tool to indicate expected revenues and projected profits, however it does not provide an assurance of future achievement or profits as order cancellations or delays are possible.

### Patents, Copyrights and License Agreements

We believe that while patents are useful and will be used at times in the future, they are not critical or valuable in many cases on an individual basis. We believe the collective value of our intangible property such as blueprints, specifications, technical processes, cumulative employee knowledge, and experience provide us with a measure of protection for our manufacturing and design processes.

### Research and Development

We continue to concentrate our efforts on several research and development projects. We develop and customize equipment for industry and government, university and industry research laboratories around the world. Our research, design and development of equipment, which remains proprietary to us, is used to improve our existing products and develop new products for customers. The amount spent on research and development was \$410,000 and \$273,000 for the years ended December 31, 2004 and December 31, 2003, respectively.

### Government Regulations

The Company knows of no government requirements for approval of the sale of its products or services except in some export cases. At that time, we apply for the appropriate export, license. As of December 31, 2004, there were no pending government approvals for an export license.

We know of no existing or probable governmental regulations that would have a serious effect on our business.

We have and will continue to comply with any and all environmental laws that are applicable to our business.

### Insurance

Some of our products are used in connection with explosive, flammable, corrosive and toxic gases. There are potential exposures to personal injury as well as property damage, particularly if operated without regard to the design limits of the systems and components. We believe that our insurance coverage is adequate. We have the following insurance coverages:

- o Product liability
- o Property and contents
- o General liability
- o Directors and officers
- o Transportation
- o Business auto
- o Workers compensation
- o Employee benefits liability

### Employees

At December 31, 2004, we had 96 employees, 93 of which were full time

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personnel and 3 worked part time. We had 55 people in manufacturing, 14 in engineering (including research and development and efforts related to product improvement) 6 in field service, three in marketing and 18 in general management and administration.

### Item 2. Description of Property.

We maintain our headquarters at 1860 Smithtown Avenue, Ronkonkoma, New York, where we own a 50,000 square foot manufacturing facility which was purchased in November, 2002. Our CVD and Conceptronic divisions operate out of this facility. Our SDC division operates out of a 22,000 square foot manufacturing facility situated on five acres of land which we purchased in December 1998 and is located at 1117 Kings Highway, Saugerties, New York. Each facility is in good operating condition and is adequate to meet the Company's present and anticipated future needs.

### Item 3. Legal Proceedings.

In September 1999, the Company was named in a lawsuit filed by Precisionflow Technologies, Inc., in the United States District for the Northern District of New York relating to comments allegedly made by CVD's President, Leonard Rosenbaum, concerning the intellectual property obtained in the purchase of assets of Stainless Design Corporation. We promptly filed a counterclaim for unauthorized use of our intellectual property. The plaintiff is seeking monetary damages and injunctive relief. In our counter claim, we are also seeking monetary damages and injunctive relief. All pre-trial disclosure has been completed and the case is currently pending decisions on motions and cross motions for summary judgment. No trial date has been set.

In May 2002, the Company instituted a new action against Precisionflow Technologies, Inc., in the United States District for the Northern District of New York seeking injunctive relief and monetary damages based upon copyright violations. A motion by Precisionflow Technologies, Inc. to dismiss this action has been pending since June 2002.

### Item 4. Submission of Matters to a Vote of Security Holders.

Not applicable.

## PART II

### Item 5. Market for Registrant's Common Equity and Related Stockholder Matters.

The principal market for our common stock which is traded under the symbol CVV is the American Stock Exchange. The following table sets forth, for the periods indicated, the high and low sales prices of our common stock on the American Stock Exchange.

	High	Low
	-----	-----
Year Ended December 31, 2004:		
1st Quarter.....	\$ 3.00	\$ 1.28
2nd Quarter.....	2.30	1.20
3rd Quarter.....	1.41	0.75

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4th Quarter.....	1.47	0.90
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	High -----	Low -----
Year Ended December 31, 2003		
1st Quarter.....	\$ 1.62	\$ 0.82
2nd Quarter.....	1.35	1.00
3rd Quarter.....	1.95	1.03
4th Quarter.....	1.48	1.10

As of March 29, 2005, there were approximately 94 holders of record and approximately 450 beneficial owners of our common stock. On March 29, 2005, the closing sales price of our common stock as reported on the American Stock Exchange was \$1.23.

### Dividend Policy

We have never paid a dividend on our common stock and we do not anticipate paying dividends on the common stock at the present time. We currently intend to retain earnings, if any, for use in our business. There can be no assurance that we will ever pay dividends on our common stock. Our dividend policy with respect to the common stock is within the discretion of the Board of Directors and its policy with respect to dividends in the future will depend on numerous factors, including earnings, financial requirements and general business conditions.

### Equity Compensation Plan Information

The following table provides information about shares of our common stock that may be issued upon the exercise of options under all of our existing compensation plans as of December 31, 2004.

	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance
Plan Category			
Equity compensation plans approved by security holders (1)	355,400	\$ 1.56	224,250
Equity compensation plans not approved by security holders	0	0	0
Total	355,400	\$ 1.56	224,250