COOL CHIPS PLC
Business Plan

Prepared by:
Cool Chips plc
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This document is not a solicitation to sell securities, and its entire contents are subject to the Forward Looking Statement on page 65 and at http://www.coolchips.gi/fwdlook.shtml

Cool Chips plc - Registered in Gibraltar, number 57885
8-10 Montague Pavilion, Gibraltar
Phone +350-59995 - Fax +1-503-296-2163
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Executive Summary

Overview –

Cool Chips plc was formed in 1996 to develop and market the “Cool Chip™” – a small, solid-state device capable of efficiently moving heat from one side of a diode to another. Cool Chips exploit a quantum electron tunneling effect in operation. Simply stated, this means that energetic electrons will migrate across a nanometre-scale gap, moving heat energy in the process. Because of the inherently high efficiency of this effect, and the use of a gap between the electrodes to prevent losses from heat conduction, Cool Chips offer a uniquely efficient cooling solution. Our technical staff believes Cool Chips to be the first viable replacement option for the compressor technology which is currently dominant in nearly all forms of thermal management, including air conditioning, refrigeration, freezing and chilling (thermal management will be generally referred to as “cooling” in this document). Our technical staff also advise that they will be able to successfully build product for the aerospace and defence markets and that Cool Chips will become the dominant thermal management technology in these markets.

The global cooling industry currently reports sales in excess of $200 billion per year\(^1\), and accounts for a significant portion of annual energy consumption worldwide. Cool Chips offer a number of benefits over traditional systems that will grant them a significant competitive advantage in penetrating this large and very mature market. In addition to the efficiency, size and weight advantages, Cool Chips have no moving parts, operate silently, require little or no maintenance, and use no environmentally harmful refrigerants. Furthermore, because of their relatively simple design and construction, it is expected that mass-produced devices will be offered at a price competitive with existing cooling solutions.

Scientific validation including an evaluation by the Boeing Company and independent research by Stanford University has confirmed the validity of the science underlying the operation of Cool Chips. Subsequent research efforts have advanced Cool Chips to the final stages of development, with production prototypes expected to be available within 6 to 8 months. We have produced laboratory prototype devices that have empirically shown significant easily measured cooling. We are currently addressing the final packaging and engineering issues to take Cool Chips from laboratory prototype devices to stand-alone production prototype devices and finally to production devices for sale first into the aerospace and defence markets, followed by other markets. The Company has the production capacity in our own facilities to meet much of the early demand for production devices.

\(^1\) International Institute of Refrigeration (http://www.iifir.org)
Cool Chips have no direct competitors in the use of quantum electron tunneling for cooling, and have broad patent coverage preventing duplication of their design, assembly or operation. Existing cooling solutions that currently dominate the market do not offer the same design and operational benefits. In short, the Cool Chips technology solution stands alone as a proprietary, drop-in replacement for the commoditised compressor systems in use today. By making efficient and environmentally friendly cooling available to new markets, and by enabling completely new cooling solutions, we expect Cool Chips to become the dominant cooling technology for decades to come.

Business Strategy –

Cool Chips plc has a substantial patent portfolio covering areas ranging from assembly to use of Cool Chip™ devices. Cool Chips plc intends to introduce these devices to market by licensing their use to individual companies on an exclusive basis. In addition, licensees retain the option to sublicense the technology within their market, creating a revenue stream based on license and revenue sharing payments and establishing licensees as a potential sales force in the effort to enhance market share for Cool Chips. Over the long term Cool Chips plc is expected to dominate the HVAC markets, the automotive markets and virtually all specialty thermal management markets. Our first licensing agreement with Rolls-Royce plc (see appendix D, pp 36-37) effectively means that the Cool Club™ model of business will be utilised by Cool Chips plc for many years, except where we are the original equipment manufacturer and seller.

For the first year, sales are expected to be targeted at low-volume, high-margin aerospace and defence applications. For these sales, our existing production capabilities should be sufficient to meet much of the anticipated volume demands, and revenues from these sales could readily be in the billions of dollars. Because of the unique requirements of the aerospace and defence markets, individual Cool Chips with adequate cooling capacity can be sold for tens or even hundreds of thousands of dollars each.

For high-volume applications, Cool Chips plc intends to license the assembly of Cool Chips to semiconductor manufacturers who have the expertise and manufacturing capacity to produce these devices in volume. By leaving final manufacturing, implementation and marketing efforts to industrial partners and licensees, Cool Chips plc can drastically reduce staffing and capital requirements, while sharing in revenue and maintaining a focus on continued research and development. Over the long term–five or more years–we expect these markets will slowly grow to dominate our business.

Financing –

Cool Chips plc shares have been traded publicly in the U.S. over-the-counter market since April 2002 under the symbol COLCF. Quotes are available from most services. The company currently has approximately 8,250,000 shares outstanding, with the majority of these shares (approximately 63%) being held by the parent company, Borealis Technical Limited. Recent trading activity gives the company a valuation between US $60 to $160 million.
All funding to date has been “friends and family” style investment, with no significant equity investments from outside sources. Cool Chips plc has recently funded and set up small-scale production prototype wafer capacity both to service the low-volume, high-value aerospace and defence market and to enhance development work. Personnel expansion is expected to remain limited, although full-scale prototype production will significantly increase personnel numbers. We expect that most implementation and marketing work will be addressed by licensees. We expect the commercial market penetration to require three to five years.

After the initial demand for aerospace and defence applications is moderately satisfied, we would expect sales to the aerospace and defence markets to hold steady at best. Future revenues will then increasingly be a function of broader market penetration. The many technical and cost advantages of Cool Chips are expected to accelerate market acceptance and penetration. Given the size of the existing thermal management market and the potential for sales to new markets, Cool Chips plc expects to generate profits ranging in the hundreds of millions to low billions of dollars within the first year of having production Cool Chips™ for sale. We expect general thermal management market penetration in the HVAC, aerospace, electronics, and automotive markets to generate sales in the billions of dollars after five years and continue growing thereafter.

Additional information, including current audited financials and the full text of all issued patents, is available online at www.coolchips.gi. Five-year sales projections based on production prototype availability can be found on pages 17-21. These numbers become applicable upon production of prototype devices, which is expected to occur within 6 to 8 months from the date of this Business Plan. There is no guarantee that the Company will be able to deliver the production prototype devices to the aerospace and defence markets in this time frame. All final engineering issues, including packaging issues which we feel are being successfully addressed, to enable the production of saleable devices may indeed take an indeterminate amount of time that could easily be 6 months or more longer than the 6-8 month schedule we now project. On the basis of our present knowledge, however, we now expect to have device sales in 6-8 months.
"Hot" and "cold" are words we use to describe the presence (or absence) of heat. Heat is best described as energy contained within something else. So a cup of hot coffee has more energy than that same cup an hour later, after much of the heat has dissipated.

The energy which makes up "heat" is the kinetic energy of the atoms which carry the heat. So if the atoms in the cup of coffee are very active, the coffee is "hot". If the atoms become less active, the coffee is "cold". And if the atoms get cold enough so that the atoms are no longer in a fluid form, the coffee freezes into a solid.

While atoms in a solid tend to be pretty immobile, the sub-atomic particles within them are always moving. At any temperature above absolute zero (-459°F), electrons are constantly in motion, spinning around the atom, but also (especially in metals) swapping places with the electrons of surrounding atoms.

Of course, some electrons have high energy, while some electrons have low energy. The low energy electrons are cold, while the high energy electrons are hot.

Cooling with electrons involves encouraging the high-energy electrons to escape, bringing in low energy electrons to replace them. It is analogous to removing the loudest people from a party: the party gets quieter.

**What makes Cool Chips™ different?**

There are other well-established technologies which use electron migration to reduce heat. These fall under the rubric of "thermoelectrics", and have been studied since the discovery of the Peltier Effect in 1834. These technologies all use special materials and geometries to move the hottest electrons to one side, keeping the coldest electrons at the other. The biggest problem with thermoelectrics is that while electrons are used to carry heat in one direction, the material itself returns most of that heat through conduction.

Cool Chips are different because the electrons must move across a gap, which provides excellent thermal insulation. As a result, Cool Chips are expected to have operating efficiencies higher than any system currently in use, and an order of magnitude higher than thermoelectrics.

Explanations:

- Conventional thermoelectrics allow conducted heat (red arrows) to flow opposite to migrating electrons, resulting in inefficiency.
- By introducing a gap the return path for conducted heat (red arrows) is eliminated, making Cool Chips extremely efficient.
How do the electrons move across the gap?

The difficulty in getting lots of electrons to flow across a gap is that electrons do not naturally leave their atoms to go into space. Electrons do jump around (an effect called “tunneling”), but those jumps are very short, from one to ten nanometres \((10^{-9} \text{ metres})\) long.

Cool Chips plc has developed a method to bring two materials very close to each other so that electrons can tunnel from one material to the next, carrying their heat with them. With the addition of a voltage bias, which helps keep the electrons flowing in one direction, the heat is then transferred from one side to the other. Finally, because the two sides are separated by a gap the heat cannot easily flow back.

Technology Benefits

The Cool Chips technology has many significant advantages over the conventional phase-change, compressor-based technology, known as the Rankine cycle. Thermal management solutions based on the Rankine cycle are inefficient, bulky, complex, and use environmentally unfriendly gases and liquids. The fundamental Rankine-based technology has been around for over 100 years, since Willis Carrier invented the precursor to modern cooling systems in 1902. Currently, Rankine-based systems dominate the marketplace simply because there is no viable alternative for most applications.

From a technical perspective, Cool Chips pose a significant challenge to Rankine-based systems. Like Rankine-based systems, Cool Chips based systems will be able to cool well below ambient temperatures. In addition, the Cool Chips technology will offer the thermal management market a core technology that is light, modular, silent, highly efficient and free of noxious gases or liquids. In addition, thermal management solutions based on the Cool Chips technology should, in mass production, cost significantly less to manufacture than Rankine-based solutions.

Cool Chips prototypes are small electronic devices similar in appearance to computer chips. When an electric current is applied, one side of the chip will become cold and the other side hot, as electrons “tunnel” across a one-to-ten nanometre gap separating the two sides, carrying heat with them. Innate device advantages include high efficiency, solid-state design, silent operation, environmentally friendly materials and operation, and compact size for easy integration.

Cool Chips plc has built a number of prototypes that have demonstrated a tunneling current in excess of 10 amperes, using a wafer area approximately 9 square cm. This is, by far, the largest tunneling current that has ever been reported across a gap. The tunneling current can be harnessed to provide cooling of very high density. The maximum theoretical heat flux for flat electrodes suspended 5 nanometres from each other is on the order of 5000 watts \(\text{Watts per square centimetre}\).

We have seen cooling measured in multiple degrees of Kelvin in laboratory Cool Chips™. Our remaining challenge is to get the devices from the laboratory to the luxury market.

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The Cool Chips technology has the following attractive attributes:

**Efficiency:** Cool Chips can achieve in excess of 55% of Carnot (ideal) efficiency\(^3\), compared to a maximum of 40-50% in conventional systems, and 5-8% for thermoelectrics.

**Weight:** The low weight of the chips enables mobility and easy installation.

**Size:** Cool Chips are extremely compact allowing for high cooling in a small package.

**Simplicity:** Cool Chips have no moving parts, and have no current surge or lag at startup.

**Modularity:** Devices can be swapped with ease. Likewise, because larger applications will be designed to use an array of many individually replaceable Cool Chips, catastrophic failure becomes far less likely than in conventional systems that have a single point of failure.

**Integration Costs:** The technology design allows for a single basic unit to be applied and used in numerous different end use applications. Application of the Cool Chip Technology will vary only by the operating temperature range, the number of Cool Chips installed in a cooling system, and the watts of cooling capacity of each individual chip.

**Environmental Benefits:** Cool Chips operate without any harmful gases or liquids, and produce no noise or vibration. They are designed to be environmentally friendly without the disadvantages of Freon-based technologies. Electrons are the working fluid.

For a technical comparison between Cool Chips technology and the Rankine technology, please see Appendix A: Product Comparison Charts

**Summary**

Previous attempts to use thermotunneling were unsuccessful because no one could bring two surfaces close enough together to allow useful electron tunneling to take place. A growing body of scientific study provides clear evidence that maintaining a nanometre-scale gap between two electrodes allows for extremely high efficiency, and Cool Chips' patented technology makes this process possible.

Evaluations conducted by Boeing's Phantom Works and continued progress by researchers at Cool Chips plc suggest that not only will finished devices work, but that the remaining issues are all related to engineering, and not with validating the underlying science. With our facilities operating on an aggressive work schedule we expect to begin testing production prototype devices in a matter of 6 to 8 months from the date of this Business Plan. While we are confident in the abilities of our technical staff, it should be noted that unforeseen events may significantly alter the actual date that production prototype devices will be available.

\(^3\) The Carnot cycle describes the most perfect heat pump allowed by physical laws. Actual efficiency will vary depending on the temperature conditions present, but the Carnot equation will always show the maximum efficiency that is theoretically achievable given those conditions.
**Technical Strategy**

The foundation of Cool Chips plc’s business is the Cool Chips™ technology. Cool Chips plc has focused on research and development and related patent work for over seven years. Our future activity will remain focused on research and development, emphasizing the creation of commercially viable production chips bringing by our production prototype production facilities up and making product for sale to the market.

The Company now has dedicated laboratory/research facilities manufacturing prototype Cool Chips. These facilities are capable of producing twenty (20) \(1\ \text{cm}^2\) Cool Chips devices per hour. We have run prototype devices that record cooling measured in multiple degrees of Kelvin in a laboratory setting. Current efforts place emphasis on meticulous process documentation and repeatability in order to ramp up large-scale production prototype capacity as soon as possible for the aerospace and defence market.

**Development Path**

The following are technical milestones that Cool Chips plc has reached or seeks to reach over the next two years.

<table>
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<tr>
<th><strong>Milestone</strong></th>
<th><strong>Timeline</strong></th>
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<tbody>
<tr>
<td>Siting first commercial production facility</td>
<td>Tentatively Set</td>
</tr>
<tr>
<td>Commencement of production facility design</td>
<td>Achieved</td>
</tr>
<tr>
<td>Creation of first research prototypes</td>
<td>Achieved</td>
</tr>
<tr>
<td>Operational laboratory Cool Chips showing significant multi-degree Kelvin Cooling.</td>
<td>Achieved</td>
</tr>
<tr>
<td>Installing low-volume, high-value fabrication capacity in R&amp;D facilities</td>
<td>Achieved</td>
</tr>
<tr>
<td>Small-scale fabrication for high-value market applications where Rankine-based technologies do not compete.</td>
<td>Estimated within 6 - 8 months</td>
</tr>
<tr>
<td>Complete process documentation for fabrication of initial high-value devices</td>
<td>Estimated within 6 - 8 months</td>
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Cool Chips should be easily fabricated in a production line setting. Cool Chips should be much easier to build than the current state-of-the-art computer chips while using similar facilities. Because Cool Chips will use somewhat similar facilities, much of the equipment that is needed by Cool Chips will be available through existing supply channels. Our actual production facility and the technology used in that facility are confidential and proprietary to Borealis Technical Limited and Cool Chips plc. The ramp-up of production will be similar to the ramping up of an integrated circuit production line.
With a signed non-disclosure agreement (NDA) in place, further technical details of the Cool Chips Technology can be made available. For potential licensees, a tour of some of our facilities may be available. For more information, please contact us via e-mail at: exec@coolchips.gi and pr@coolchips.gi.

**Development Practices**

In its efforts to develop this technology, Cool Chips plc has pursued two guiding principles:

1. Use of the best technical resources available.

2. Use of parallel development teams.

*Use of Best Available Resources*

Cool Chips has tremendous scientific resources in its research and development team. However, in areas where Cool Chips lacks internal expertise, two responses have emerged:

1. Where it has proven cost-effective, Cool Chips has relied on independent contractors. Outside contractors are selected based upon their expertise, active participation, reputation and success in their field, as well as the overall quality of their work. Before developing a working relationship with an outside consultant or contractor, management confirms that suitable confidentiality and intellectual property provisions are in place.

2. Cool Chips has in many cases added the required capability to the in-house team. Before developing a capability in-house, management confirms that suitable confidentiality and intellectual property provisions are, of course, in place for all in-house persons.

Through this method, Cool Chips has ensured that the best internal and external resources are used to meet the goals.

*Use of Parallel Development Teams*

In order to promote the speed and effectiveness of the development of Cool Chips, the management is committed to a parallel approach to research and to product development, encouraging multiple teams of researchers and engineers to propose solutions and to develop these ideas to resolve both existing issues and potential new issues that may arise.

This has resulted in three distinct development approaches. Each has its own advantages, ranging from lower manufacturing costs to technical applicability to unexpected industries. By developing all three, we are ensuring that devices are completed as quickly as possible while continuing to develop and enhance the body of intellectual property surrounding this technology.
Market Analysis

The technical staff believes that there are no technologies currently on the market that offer a competitive advantage over working Cool Chips. Cool Chips plc will seek to become a supplier of Cool Chips for the aerospace and defence market, but not a manufacturer or distributor of systems based on Cool Chips technology for the general commercial market. We may be forced to become a virtual OEM (original equipment manufacturer) because of the nature of certain markets.

There are two fundamental markets that Cool Chips seeks to occupy:

- The market for thermal management technology dominated by Rankine-based systems
- The market for thermal management solutions where existing solutions are inadequate

The greatest challenge in the first case is convincing potential customers that the product being offered is desirable and/or necessary. In the second case, the only requirements are to produce devices that both meet customer specifications and are preferable to any existing solutions, for reasons either of economy or of cooling efficiency.

Our management staff is confident that any Cool Chips™ devices produced that can meet specifications of the aerospace and defence market can be sold.

Thermal Management Technology Market

The underlying technology for most existing thermal management solutions, the Rankine compressor, has been largely in the public domain for the bulk of the past century, leaving no known companies that are competitive on the basis of their fundamental cooling technology. Rather, today’s established thermal management companies focus on areas such as heat sink development and the creation of packaging for compressor-based technologies. The research work and resultant product improvements have been incremental at best and have not affected the fundamental operation of cooling systems for commercial or industrial products. Cool Chips plc, as developer and owner of the technology that, according to our technical staff, offers a viable replacement for the compressor, is not a direct competitor to the existing thermal management industry companies. Indeed, much of the technology being developed by others to complement and package compressor-based systems for moving heat to and from heat exchangers could also be applied to Cool Chips-based systems.

Cool Chips plc has built relationships with many companies in fields ranging from electronics cooling to aerospace applications to refrigeration. Cool Chips plc is actively seeking to leverage and expand these relationships into formal partnerships in a wide variety of fields. By building these cooperative relationships, Cool Chips devices should be recognized as adding a competitive advantage and a source of revenue enhancement to any thermal management system, rather than as competition.

Nearly all initial sales will be as an OEM, where Cool Chips will be produced and sold directly to the end user for aerospace and defence applications. After these sales are firmly established, licensing and revenue sharing would be expected to occur with others in all of the commercial thermal management markets.
Thermal Management Market

The commercial market for thermal management is quite large, covering everything from electronics cooling to home air conditioning to industrial cooling. However, because of its limited resources and small size, Cool Chips is not presently in a position to compete in the bulk of this market. Cool Chips does not currently have the resources to design, manufacture, market, distribute and support air conditioning or refrigeration systems. Cool Chips plc, on the strength of its technology alone, will have a difficult time competing with companies that have large resources and established market positions. Only when we have substantial sales and profits will we seriously look at the general thermal management market. In four to five years’ time, the management expects that Cool Chips plc will have gained significant market share in these general markets, and it is expected that interest will continue to grow thereafter.

In the aerospace and defence market, existing cooling technologies provide poor solutions or none at all. Examples include the limited available options for the cooling of spacecraft, or for cooling sensitive electronics such as infrared sensors. In these markets, Cool Chips plc has a unique opportunity to produce cooling devices where no viable competition exists.

Summary

Cool Chips plc is expected to generate substantial revenue from the direct sale of Cool Chips to the aerospace and defence market for many years. By focusing on sales to market segments that are currently not served by existing technologies, it will be possible to sell high-margin product while mass production capability for the general market is still in development and while the mass markets start to make any adjustments necessary to accommodate the Cool Chips™ technology. As Cool Chips become widely available in the next five years and beyond, sales to the aerospace and defence market will provide a diminishing proportion of revenues, but not before providing an immediate source of substantial income capable of supporting the ramp-up to commercial production capabilities.

In the long term, the vast majority of the income to Cool Chips plc will most likely stem from the sharing of revenues with chipmakers and end-users. It may be possible that by making Cool Chips available to current thermal management market leaders, Cool Chips plc can leverage the licensees’ ability to engineer, market, and sell product. Our indication to date is that the current market leaders in the commodity thermal management market will not willingly embrace this technology. If the current market leaders do embrace the technology, Cool Chips plc will remain focused on enhancing the technology to maximise the licensees’ benefit, while requiring little or no investment in marketing or selling products to end-users. If the current market leaders in commercial thermal management do not embrace our technology, we will have sufficient financial resources to directly address these markets after we have adequately addressed the aerospace and defence market.
**Business Model**

Our strategic aim is to first obtain a lead position in the aerospace and defence markets in which our technologies enjoy overwhelming advantages. Then we will address the commodity thermal management markets with the financial resources to use any business model we choose or that fits our needs at the time. Our current strategy for gaining market dominance uses two different models: The “Cola Syrup” model and the “Intellectual Property Cool Club (IP) Model”. We believe that these two models will allow us to realise the greatest benefits from our technology.

**Cola Syrup Model**

The cola syrup model is primarily based on license revenue; the syrup maker doesn’t actually sell a single can of cola, but it does make and control the formula which is shipped to bottling plants around the world. The syrup maker in this model owns a controlling interest in the syrup making plant and licenses to only one bottling plant in each market (or niche market). In this model the syrup maker does not interfere in the day-to-day business of the bottler, who best knows both his market and his clients.

This analogy can be extended to the mass-market portion of the thermal management industry. Cool Chips can be used in dozens of very distinct fields, such as medical devices, instrument cooling, automotive air conditioning, HVAC, white goods, electronics, and even clothing. Whereas in some markets, such as white goods, any solution must be very competitively priced to force out existing technology, in other markets, such as cooling microprocessors, a much greater margin can be had given the lack of other solutions. For these and other reasons, probably no one company, no matter how capable, could ever successfully dominate more than one or two of these markets, let alone all of them. Cool Chips™, however, will have applications across the entire spectrum of thermal management solutions.

Using the cola syrup model, Cool Chips plc is the syrup maker, or the virtual OEM syrup maker which has licensed some of the worldwide exclusive manufacturing rights to major chip manufacturers. As the virtual OEM manufacturer it only sells its product directly to end users (owning its own “bottling operations”) or to the niche companies (“bottlers”), serving a particular market (e.g. cooling electronics, HVAC, aerospace, white goods, etc.). Each of these licensees would have the exclusive right to sell in its market, but no rights to any others. There is a good chance that many of the current leaders in these specific markets will not license from us, in which case we would expect that other companies will take over those markets. Any market that we can intelligently and profitably serve will be handled by Cool Chips plc. When and if it will make sense to sell a license to a third party this will be done on a case-by-case basis as each situation warrants.
**Intellectual Property (IP) ‘Cool Club’ Model**

The IP Model has been successfully used in many fields where a significant, new technical advance has been discovered. Each company that licenses the intellectual property agrees that any advances or improvements made by them are automatically shared with all other licensees. This ensures that all licensees and sub-licensees will benefit from improvements in the technology regardless of origin, and will minimise or eliminate inter-licensee disputes concerning the technology. Our agreement with Rolls-Royce embraces the Cool Club model.

The more companies having vested interests in keeping the technology as the property of the licensor and licensees, the greater the resources to defend against intellectual property infringement or theft elsewhere.
Company Management

Cool Chips plc will rely on Borealis Technical Limited’s management for the immediate future. As it moves towards creating a market for its technology and its thermal management solutions, Cool Chips anticipates an independent management team will be developed. A list of company directors can be found in Appendix C.

Management Team Backgrounds

Rodney T. Cox, Ph.D. (CEO, Acting Chief Financial Officer)

Rodney T. Cox is chairman and chief executive officer of Cool Chips plc and of its parent and affiliated companies. He is also a member of the Executive, Audit, and Compensation Committees of Cool Chips plc, and in addition serves as the Company's acting chief financial officer. He has held similar positions with all of the Borealis Family of Companies since 1978.

Dr. Cox's principal experience has been as an investor in both public and private companies and a strategic and financial advisor to corporations and other institutions. From 1960 to 2000 he was a partner in the Parmenides Group, a private investment banking firm, where he engaged in a wide range of investing, financing, and consulting activities in many industries; Dr. Cox continues to advise the Parmenides Group, which is now owned by a charitable foundation.

Since 2000 he has consolidated his charitable activities into several charitable foundations, where he is a member and a member of the Council. Dr. Cox oversees strategic and financial matters for the Borealis Companies, but operational responsibility is being gradually assumed by the next generation of family members. Dr. Cox holds a B.A. in Mathematics and Economics from Willamette University, an M.S. in Industrial Administration from Carnegie Mellon University, and a Ph.D. in Finance and Operations Research from Columbia University.

Wayne S. Marshall, Ph.D. (Executive Committee Chairman)

Wayne S. Marshall is a member of the Board of Directors of Cool Chips plc and of its parent and affiliated companies. He is also chairman of the Executive and Compensation Committees and co-chairman of the Audit Committee for Cool Chips plc.

After completing a term of military service as an industrial engineer at the Red River Arsenal, Dr. Marshall worked as a Manufacturing Process Engineer for a division of General Motors. He has since taught at Case Institute of Technology, Texarkana Junior College, Columbia University and most recently Long Island University where he was professor of Business Administration. He has been associated with Borealis since 1970 and is currently a director of almost all of the Borealis Family of Companies. Dr. Marshall is a member of the Council of several charitable foundations.
Isaiah W. Cox (President and Chief Operating Officer)

Isaiah W. Cox is President and Chief Operating Officer of Cool Chips plc and of its parent and affiliated companies. He is also a member of the Board of Directors, and serves on the Executive and Compensation Committees of Cool Chips plc. He has served as COO since 1993, and president since 1999, having worked with the Borealis Family of Companies in various capacities since 1987.

Mr. Cox, a founder of Cool Chips plc, is responsible for operations, including technical development, licensing presentations and negotiations, and ongoing oversight of all non-financial aspects of the company’s efforts, including non-financial personnel.

Mr. Cox is also president of Thales Resources, Inc. He is a member of the Council of several charitable foundations. Mr. Cox graduated from Princeton University with an A.B. in History, and has conducted post-graduate work at King's College, University of London, England. Mr. Cox holds 7 issued patents, with 6 more patents pending.

Stuart Harbron, Ph.D. (Chief Patent Officer)

Stuart Harbron is Chief Patent Officer of Cool Chips plc and of its parent and affiliated companies. He is also a member of the Board of Directors. He has worked with the patent team of Cool Chips plc and its parent since 1995.

Dr. Harbron also served as Research Director at ZetaGen Ltd. from 1999-2001 and as a member of The Enzyme Technology Consultancy since 1995. Dr. Harbron received both his B.Sc. and Ph.D. from the University of Sheffield. He is the author of 26 publications in peer-reviewed journals, and of 13 published patents and patent applications. Dr. Harbron is a member and a member of the Council of a charitable foundation.

Robert L. Carman, Jr., Ph.D. (Project Manager, Aerospace and Defence Programs)

Dr. Carman joined the Company in 2003 and manages the programs for Cool Chips’ initial markets in aerospace and defence applications; he also manages Chorus Motors’ aerospace programs. Dr. Carman previously was a senior Program Manager at the Boeing Company, and formerly worked at the Los Alamos, Lawrence Livermore, and MIT Lincoln National Laboratories. He is author of more than 80 scientific publications. His Ph.D. is in Physics from Harvard University.

James Magdych (Chief Information Officer)

James Magdych is chief information officer of Cool Chips plc and of its parent and affiliated companies. He has served as a network consultant for Cool Chips plc and its parent since 2001.

Mr. Magdych previously managed advanced computer security research efforts at Network Associates, Inc., where he consulted with numerous public and private agencies and media venues including the FBI, CNN and the BBC. From 1995-1998 he worked for ViewSonic Corporation, designing and deploying global data and telecommunications networks. He has held the position of Chief Information Officer since 2002.
Company Finances

Capital Requirements

With production Cool Chips in hand we expect to become self-funding when anticipated revenues are generated from product sales and license fees. Cool Chips plc has sufficient funds on hand and promised to cover development costs to finish the development of production prototype devices.

A research/production prototype manufacturing facility targeting specifically the aerospace and defence markets is now operating.

There are several different ways to build Cool Chips devices, all of which have patents applied for, approved for issue or issued. We will test and build Cool Chips using all the methods at our disposal until we identify that which is most suitable for making production devices. We will then accelerate the program, seeking optimum solutions for the high-volume production of Cool Chips after we have begun satisfying the requirements of the aerospace and defence markets.

Our aerospace and defence markets production prototype facility is very simple compared with the current generation of computer chip manufacturing plants (fabs). Current state-of-the-art semiconductor fabs cost several billion dollars, and are designed to complete the hundreds of steps in the production process of a computer chip in a sterile environment. In contrast, a Cool Chip plant which produces the core sandwich requires fewer than 10 production steps and, as the process is done in a single machine under vacuum, no clean room is required. Packaging for the production prototype devices requires considerable engineering time, but suitable parties have indicated an interest in developing packaging solutions to aid the program. If we are unable to partner with a company with suitable expertise in micro-device packaging, which is an unexpected but possible outcome, we expect to be delayed by 6 months or more.

With Cool Chips available for sale, we anticipate immediate high value sales, with payment for product against delivery for initially any devices we can make that meet already agreed specifications. Within two months of starting aerospace and defence markets production, we will be in a strong cash position, and will begin building or joint venturing substantial production facilities in Gibraltar. At this point we will spend from internally generated funds whatever is necessary to aggressively defend and expand the markets for Cool Chips.
Financial Projections

Assumptions Underlying Five-year Financial Projections:

These five-year financial projections begin 1 April 2004. With production devices in hand, Cool Chips plc can immediately become a profitable business. We expect to have production prototype Cool Chips available by the end of fiscal 2005.

It should be noted that without production prototypes in hand before the end of FY 2005, these five-year financial projections will be delayed by the time required to complete production prototypes.

The first two months after production devices become available, which we now estimate to be the fiscal year ending 31 March 2005, shows total sales of US$1.413 billion. 89% of these sales come from the sale of specialized Cool Chips to the aerospace and defence markets from our own production facilities. The sales of aerospace and defence devices top out at US$5.35 billion in year 5. Revenues from license fees start at US$111 million in fiscal 2005 and increase and then go to zero in year 5. Revenue sharing goes from US$42 million for all market segments to US$2.138 billion in year 5.

With production devices meeting the markets’ demanding specifications in hand all these sales projections should be attainable, keeping in mind that the sales projections begin upon attaining working production devices.

The total projected sales grow from US$1.413 billion year 1 to US$7.484 billion in year 5 of this plan.

Cool Chips plc cost-of-goods-sold varies from 10% to 20% of total sales; gross profit varies from 80% to 90% during the five-year period.

Operating expenses, which include research and development, run from 10% to 18% during the time period; research and development expenditures expand from US$60 million year 1 to over US$468 million in year 5.

Net income after taxes is projected to increase from US$879 million in year 1 to US$4.897 billion year 5.

Current assets are projected to rise from US$798 million in the period ending 31 March 2005 to over US$9 billion in the year ended 31 March 2009.

Liabilities remain very nominal throughout all time periods running from US$5 million to a maximum of US$94 million.

Our analysis indicates that these numbers are attainable, and perhaps conservative, once production devices are available.
## Income Statement 1 April 2004 to 31 March 2009

*Figures in millions of US Dollars*

<table>
<thead>
<tr>
<th></th>
<th>Year 1 Sales</th>
<th>% of Sales</th>
<th>Year 2 Sales</th>
<th>% of Sales</th>
<th>Year 3 Sales</th>
<th>% of Sales</th>
<th>Year 4 Sales</th>
<th>% of Sales</th>
<th>Year 5 Sales</th>
<th>% of Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sales</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Aerospace License Fees</td>
<td>$27</td>
<td>1.91%</td>
<td>$124</td>
<td>3.20%</td>
<td>$79</td>
<td>1.73%</td>
<td>$37</td>
<td>0.65%</td>
<td>$0</td>
<td>0.00%</td>
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<tr>
<td>HVAC License Fees</td>
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<td>1.20%</td>
<td>$23</td>
<td>0.59%</td>
<td>$40</td>
<td>0.88%</td>
<td>$26</td>
<td>0.46%</td>
<td>$0</td>
<td>0.00%</td>
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<tr>
<td>Automotive License Fees</td>
<td>$40</td>
<td>2.83%</td>
<td>$62</td>
<td>1.60%</td>
<td>$107</td>
<td>2.35%</td>
<td>$49</td>
<td>0.87%</td>
<td>$0</td>
<td>0.00%</td>
</tr>
<tr>
<td>Direct Sale High-value Market</td>
<td>$1,260</td>
<td>89.17%</td>
<td>$3,528</td>
<td>91.02%</td>
<td>$4,163</td>
<td>91.25%</td>
<td>$4,912</td>
<td>86.86%</td>
<td>$5,354</td>
<td>71.54%</td>
</tr>
<tr>
<td><strong>Revenue Sharing Aerospace</strong></td>
<td>$1</td>
<td>0.07%</td>
<td>$4</td>
<td>0.10%</td>
<td>$18</td>
<td>0.39%</td>
<td>$148</td>
<td>2.62%</td>
<td>$414</td>
<td>5.53%</td>
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<tr>
<td><strong>Revenue Sharing HVAC</strong></td>
<td>$14</td>
<td>0.99%</td>
<td>$27</td>
<td>0.70%</td>
<td>$76</td>
<td>1.67%</td>
<td>$281</td>
<td>4.97%</td>
<td>$787</td>
<td>10.52%</td>
</tr>
<tr>
<td><strong>Revenue Sharing Automotive</strong></td>
<td>$27</td>
<td>1.91%</td>
<td>$32</td>
<td>0.83%</td>
<td>$44</td>
<td>0.96%</td>
<td>$202</td>
<td>3.57%</td>
<td>$929</td>
<td>12.41%</td>
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<td><strong>Total Sales</strong></td>
<td>$1,413</td>
<td>100.00%</td>
<td>$3,876</td>
<td>100.00%</td>
<td>$4,562</td>
<td>100.00%</td>
<td>$5,655</td>
<td>100.00%</td>
<td>$7,484</td>
<td>100.00%</td>
</tr>
<tr>
<td><strong>Cost of Goods Sold</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Material</td>
<td>$25</td>
<td>1.77%</td>
<td>$34</td>
<td>0.88%</td>
<td>$52</td>
<td>1.14%</td>
<td>$71</td>
<td>1.26%</td>
<td>$109</td>
<td>1.46%</td>
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<tr>
<td>Labor</td>
<td>$219</td>
<td>15.50%</td>
<td>$298</td>
<td>7.69%</td>
<td>$459</td>
<td>10.06%</td>
<td>$707</td>
<td>12.50%</td>
<td>$1,216</td>
<td>16.25%</td>
</tr>
<tr>
<td>Total Variable COGS</td>
<td>$244</td>
<td>17.27%</td>
<td>$332</td>
<td>8.57%</td>
<td>$511</td>
<td>11.20%</td>
<td>$778</td>
<td>13.76%</td>
<td>$1,325</td>
<td>17.70%</td>
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<tr>
<td>Total Fixed Cost of Goods &amp; Services</td>
<td>$48</td>
<td>3.40%</td>
<td>$57</td>
<td>1.47%</td>
<td>$70</td>
<td>1.53%</td>
<td>$89</td>
<td>1.57%</td>
<td>$105</td>
<td>1.40%</td>
</tr>
<tr>
<td>Total Cost of Goods Sold</td>
<td>$292</td>
<td>20.67%</td>
<td>$389</td>
<td>10.04%</td>
<td>$581</td>
<td>12.74%</td>
<td>$867</td>
<td>15.33%</td>
<td>$1,430</td>
<td>19.11%</td>
</tr>
<tr>
<td><strong>Gross Profit</strong></td>
<td>$1,121</td>
<td>79.33%</td>
<td>$3,487</td>
<td>89.96%</td>
<td>$3,981</td>
<td>87.26%</td>
<td>$4,788</td>
<td>84.67%</td>
<td>$6,054</td>
<td>80.89%</td>
</tr>
<tr>
<td><strong>Operating Expenses</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales &amp; Marketing</td>
<td>$154</td>
<td>10.90%</td>
<td>$182</td>
<td>4.70%</td>
<td>$215</td>
<td>4.71%</td>
<td>$254</td>
<td>4.49%</td>
<td>$300</td>
<td>4.01%</td>
</tr>
<tr>
<td>Research &amp; Development</td>
<td>$60</td>
<td>4.25%</td>
<td>$92</td>
<td>2.37%</td>
<td>$158</td>
<td>3.46%</td>
<td>$272</td>
<td>4.81%</td>
<td>$468</td>
<td>6.25%</td>
</tr>
<tr>
<td>G &amp; A (without Depreciation)</td>
<td>$12</td>
<td>0.85%</td>
<td>$18</td>
<td>0.46%</td>
<td>$28</td>
<td>0.61%</td>
<td>$43</td>
<td>0.76%</td>
<td>$58</td>
<td>0.77%</td>
</tr>
<tr>
<td>Depreciation</td>
<td>$1</td>
<td>0.07%</td>
<td>$18</td>
<td>0.46%</td>
<td>$44</td>
<td>0.96%</td>
<td>$102</td>
<td>1.80%</td>
<td>$200</td>
<td>2.67%</td>
</tr>
<tr>
<td>Total Operating Expenses</td>
<td>$227</td>
<td>16.07%</td>
<td>$310</td>
<td>8.00%</td>
<td>$445</td>
<td>9.75%</td>
<td>$671</td>
<td>11.87%</td>
<td>$1,026</td>
<td>13.71%</td>
</tr>
<tr>
<td><strong>Income From Operations</strong></td>
<td>$894</td>
<td>63.27%</td>
<td>$3,177</td>
<td>81.97%</td>
<td>$3,536</td>
<td>77.51%</td>
<td>$4,117</td>
<td>72.80%</td>
<td>$5,028</td>
<td>67.18%</td>
</tr>
<tr>
<td>Interest Income</td>
<td>$12</td>
<td>0.85%</td>
<td>$13</td>
<td>0.34%</td>
<td>$15</td>
<td>0.33%</td>
<td>$17</td>
<td>0.30%</td>
<td>$20</td>
<td>0.27%</td>
</tr>
<tr>
<td><strong>Income before Taxes</strong></td>
<td>$906</td>
<td>64.12%</td>
<td>$3,190</td>
<td>82.30%</td>
<td>$3,551</td>
<td>77.84%</td>
<td>$4,234</td>
<td>73.10%</td>
<td>$5,048</td>
<td>67.45%</td>
</tr>
<tr>
<td>Taxes on Income</td>
<td>$27</td>
<td>1.91%</td>
<td>$96</td>
<td>2.48%</td>
<td>$107</td>
<td>2.35%</td>
<td>$124</td>
<td>2.19%</td>
<td>$151</td>
<td>2.02%</td>
</tr>
<tr>
<td><strong>Net Income After Taxes</strong></td>
<td>$879</td>
<td>62.21%</td>
<td>$3,094</td>
<td>79.82%</td>
<td>$3,444</td>
<td>75.49%</td>
<td>$4,010</td>
<td>70.91%</td>
<td>$4,897</td>
<td>65.43%</td>
</tr>
</tbody>
</table>
## Balance Sheet 1 April 2004 to 31 March 2009

*Figures in millions of US Dollars*

**As of the year ending**

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Current Assets</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>$654</td>
<td>$1,550</td>
<td>$1,768</td>
<td>$1,817</td>
<td>$2,060</td>
</tr>
<tr>
<td>Investments</td>
<td>$0</td>
<td>$1,735</td>
<td>$3,120</td>
<td>$4,815</td>
<td>$6,705</td>
</tr>
<tr>
<td>Accounts Receivable</td>
<td>$97</td>
<td>$106</td>
<td>$125</td>
<td>$155</td>
<td>$205</td>
</tr>
<tr>
<td>Inventory</td>
<td>$47</td>
<td>$11</td>
<td>$16</td>
<td>$24</td>
<td>$39</td>
</tr>
<tr>
<td><strong>Total Current Assets</strong></td>
<td>$798</td>
<td>$3,402</td>
<td>$5,029</td>
<td>$6,811</td>
<td>$9,009</td>
</tr>
<tr>
<td><strong>Plant &amp; Equipment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land</td>
<td>$21</td>
<td>$31</td>
<td>$67</td>
<td>$139</td>
<td>$247</td>
</tr>
<tr>
<td>Buildings</td>
<td>$31</td>
<td>$49</td>
<td>$85</td>
<td>$139</td>
<td>$211</td>
</tr>
<tr>
<td>Building/Leasehold Improvements</td>
<td>$21</td>
<td>$39</td>
<td>$93</td>
<td>$273</td>
<td>$633</td>
</tr>
<tr>
<td>Machinery &amp; Equipment</td>
<td>$45</td>
<td>$117</td>
<td>$297</td>
<td>$657</td>
<td>$1,197</td>
</tr>
<tr>
<td>Office Equipment</td>
<td>$3</td>
<td>$4</td>
<td>$12</td>
<td>$30</td>
<td>$57</td>
</tr>
<tr>
<td>Accumulated Depreciation</td>
<td>($1)</td>
<td>($19)</td>
<td>($63)</td>
<td>($165)</td>
<td>($365)</td>
</tr>
<tr>
<td><strong>Total Net Plant &amp; Equipment</strong></td>
<td>$120</td>
<td>$221</td>
<td>$491</td>
<td>$1,073</td>
<td>$1,980</td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td>$918</td>
<td>$3,623</td>
<td>$5,520</td>
<td>$7,884</td>
<td>$10,989</td>
</tr>
<tr>
<td><strong>Liabilities &amp; Owners' Equity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Current Liabilities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounts Payable</td>
<td>$94</td>
<td>$5</td>
<td>$8</td>
<td>$12</td>
<td>$20</td>
</tr>
<tr>
<td><strong>Total Current Liabilities</strong></td>
<td>$94</td>
<td>$5</td>
<td>$8</td>
<td>$12</td>
<td>$20</td>
</tr>
<tr>
<td><strong>Total Liabilities</strong></td>
<td>$94</td>
<td>$5</td>
<td>$8</td>
<td>$12</td>
<td>$20</td>
</tr>
<tr>
<td><strong>Owner/Stockholder Equity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common Stock</td>
<td>$(55)</td>
<td>$(355)</td>
<td>$(1,905)</td>
<td>$(3,555)</td>
<td>$(5,355)</td>
</tr>
<tr>
<td>Retained Earnings</td>
<td>$879</td>
<td>$3,973</td>
<td>$7,417</td>
<td>$11,427</td>
<td>$16,324</td>
</tr>
<tr>
<td><strong>Total Owners' Equity</strong></td>
<td>$824</td>
<td>$3,618</td>
<td>$5,512</td>
<td>$7,872</td>
<td>$10,969</td>
</tr>
<tr>
<td><strong>Total Liabilities &amp; Equity</strong></td>
<td>$918</td>
<td>$3,623</td>
<td>$5,520</td>
<td>$7,884</td>
<td>$10,989</td>
</tr>
</tbody>
</table>
### Cash Flows 1 April 2004 to 31 March 2009

**Statement of Changes in Financial Position: Years 1 – 5**

*Figures in million of US Dollars*

<table>
<thead>
<tr>
<th>Sources of Cash:</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operations during the year:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Income After Taxes</td>
<td>$879</td>
<td>$3,094</td>
<td>$3,444</td>
<td>$4,010</td>
<td>$4,897</td>
</tr>
<tr>
<td>Add items not decreasing cash</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>$1</td>
<td>$18</td>
<td>$44</td>
<td>$102</td>
<td>$200</td>
</tr>
<tr>
<td>Increase in Accounts Payable</td>
<td>$94</td>
<td>$(89)</td>
<td>$3</td>
<td>$4</td>
<td>$8</td>
</tr>
<tr>
<td><strong>Deduct items not increasing cash</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase in Accounts Receivable</td>
<td>$79</td>
<td>$9</td>
<td>$19</td>
<td>$30</td>
<td>$50</td>
</tr>
<tr>
<td>Increase in Inventory</td>
<td>$47</td>
<td>$(36)</td>
<td>$5</td>
<td>$8</td>
<td>$15</td>
</tr>
<tr>
<td><strong>Cash from Operations</strong></td>
<td>$848</td>
<td>$3,050</td>
<td>$3,467</td>
<td>$4,078</td>
<td>$5,040</td>
</tr>
<tr>
<td><strong>Financing &amp; Other:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sale of Stock</td>
<td>$(100)</td>
<td>$(300)</td>
<td>$(1,550)</td>
<td>$(1,650)</td>
<td>$(1,800)</td>
</tr>
<tr>
<td><strong>Cash from Operations &amp; Financing</strong></td>
<td>$748</td>
<td>$2,750</td>
<td>$1,917</td>
<td>$2,428</td>
<td>$3,240</td>
</tr>
<tr>
<td><strong>Applications of Cash:</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchases of Fixed Assets</td>
<td>$119</td>
<td>$119</td>
<td>$314</td>
<td>$684</td>
<td>$1,107</td>
</tr>
<tr>
<td>Purchase of Investments</td>
<td>$0</td>
<td>$1,735</td>
<td>$1,385</td>
<td>$1,695</td>
<td>$1,890</td>
</tr>
<tr>
<td><strong>Increase/(Decrease) in Cash</strong></td>
<td>$629</td>
<td>$896</td>
<td>$218</td>
<td>$49</td>
<td>$243</td>
</tr>
<tr>
<td><strong>Change in Cash Balance</strong></td>
<td>$654</td>
<td>$1,550</td>
<td>$1,768</td>
<td>$1,817</td>
<td>$2,060</td>
</tr>
</tbody>
</table>

| **Beginning Cash Balance**        | $27    | $654   | $1,550 | $1,768 | $1,817 |
| **Increase/(Decrease) in Cash**   | $627   | $896   | $218   | $49    | $243   |

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## Ratio Analysis 1 April 2004 to 31 March 2009

<table>
<thead>
<tr>
<th>Ratios</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Ratio</td>
<td>8.49</td>
<td>680.40</td>
<td>628.63</td>
<td>567.58</td>
<td>450.45</td>
<td>Current Assets / Current Liabilities</td>
</tr>
<tr>
<td>Quick Ratio (Acid Test)</td>
<td>7.99</td>
<td>331.20</td>
<td>236.63</td>
<td>164.33</td>
<td>113.25</td>
<td>Quick Assets (Cash + Receivables) / Current Liabilities</td>
</tr>
<tr>
<td>Return on Total Assets</td>
<td>95.75%</td>
<td>85.40%</td>
<td>62.39%</td>
<td>50.86%</td>
<td>44.56%</td>
<td>Net Income After Taxes / Total Assets (at year end)</td>
</tr>
<tr>
<td>Total Assets Turnover</td>
<td>1.54</td>
<td>1.07</td>
<td>0.83</td>
<td>0.72</td>
<td>0.68</td>
<td>Total Sales / Total Assets (at year end)</td>
</tr>
<tr>
<td>Total Debt to Total Assets</td>
<td>0.10</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>Total Liabilities / Total Assets</td>
</tr>
<tr>
<td>Gross Profit Margin</td>
<td>79.33%</td>
<td>89.96%</td>
<td>87.26%</td>
<td>84.67%</td>
<td>80.89%</td>
<td>Gross Profit (Net Sales) / Total Sales</td>
</tr>
<tr>
<td>Operating Profit Margin</td>
<td>63.27%</td>
<td>81.97%</td>
<td>77.51%</td>
<td>72.80%</td>
<td>67.18%</td>
<td>Income From Operations (Before Interest &amp; Taxes) / Total Sales</td>
</tr>
<tr>
<td>Net Profit Margin</td>
<td>62.21%</td>
<td>79.82%</td>
<td>75.49%</td>
<td>70.91%</td>
<td>65.43%</td>
<td>Net Income After Taxes / Total Sales</td>
</tr>
<tr>
<td>Return on Sales</td>
<td>78.41%</td>
<td>88.73%</td>
<td>86.51%</td>
<td>83.75%</td>
<td>80.89%</td>
<td>Net Income After Taxes / Gross Profit (Net Sales)</td>
</tr>
<tr>
<td>Return on Owners' Equity</td>
<td>106.67%</td>
<td>85.52%</td>
<td>62.48%</td>
<td>50.94%</td>
<td>44.64%</td>
<td>Net Income After Taxes / Total Owners' Equity (at year end)</td>
</tr>
<tr>
<td>Total Debt to Owners' Equity</td>
<td>0.11</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>Total Liabilities / Total Owners' Equity</td>
</tr>
</tbody>
</table>
Risk Factors

Shares in Cool Chips plc are traded under the symbol COLCF, having been called for trading in the U.S. over-the-counter market by the NASD on 24 April 2002 on the Pink Sheets. In the past twelve months the market capitalization has ranged from approximately US$16 million to approximately US$17 million.

There are many risks to purchasers of shares besides the market price risk which may or may not reflect the business risks inherent in the business. The Company, or its parent, may be unable to obtain sufficient capital to continue as a going business, may be unable to execute its business plan, may be unable to sell Cool Chips™ into the high-value markets, may be unable obtain licensees or license fees or collect on revenue sharing agreements, may be unable to perfect any or all variations of the Cool Chip Technology, may be unable to obtain additional patents applied for or to defend its current patent position, may have an unrelated third party that cannot be bought or taken over discover a better technology, may be unable to collect fees and/or revenues owed it, and may be unable to protect its technology and/or revenues from regulation, confiscation, taxation, or other impediment by any government or governmental agency worldwide.

Risks Related to Operating from Gibraltar

Gibraltar and other offshore jurisdictions have been under some pressure from international organizations such as the OECD and the European Union to harmonise their levels of taxation. Gibraltar has acceded to the demands of the European Union to eliminate ‘ring fencing’ and to have a uniform corporate tax rate for all. As such, the Government of Gibraltar has set the tax rate for corporate profits, effective 30 June 2004, at zero percent.

The EU has decided that this plan does not meet EU specifications as local companies will be subject to local employment and occupancy taxes that may total up to 15% and thus ‘ring fencing’ is still in effect. It is our opinion that these issues will be resolved and in the worst case we will be under a tax regime that will be effectively the tax system in the United Kingdom, of which Gibraltar is a Colony. All these issues are still under intense negotiation. We have no knowledge of, nor are we able to affect the outcome.

Gibraltar has been a subject of contention between the United Kingdom and Spain for nearly 300 years. Whereas Gibraltar was ceded to the United Kingdom in perpetuity under the Treaty of Utrecht in 1713, negotiations over Gibraltarian sovereignty have been conducted on various occasions between the United Kingdom and Spain. In a 1967 referendum over 97% of residents in Gibraltar indicated their desire to remain under British sovereignty. The Constitution of Gibraltar states that the United Kingdom will not transfer sovereignty without the consent of the local population.

Sovereignty negotiations between the United Kingdom and Spain have recommenced in the past few months, but as of the date of this Plan, have been halted with no change in status for Gibraltar. In November 2002, nearly 99% of the population voted in a referendum to remain under British sovereignty. There can be no assurance that Gibraltar will remain under British sovereignty or that the Company will retain its exempt status or that the status of the exempt status will be known for the foreseeable future.
Capital Stock

Cool Chips plc has only one class of capital, common stock. The Company is authorised to issue up to 10,000,000 shares; as of 31 December 2003, approximately 8,250,000 shares were outstanding. Of the outstanding shares, over 5,200,000 are owned by Borealis Technical Limited, which is the Company's parent company and is itself a 98%-owned subsidiary of Borealis Exploration Limited, also a publicly traded company based in Gibraltar.

Relationship with Borealis Technical Limited

Cool Chips plc has a very close relationship with the Borealis Family of Companies allowing for shared personnel, facilities, and research efforts. At the present time, Borealis Technical Limited is responsible for all legal, accounting, and executive functions for Cool Chips plc. Borealis Technical has extensive staff able to assist Cool Chips plc. Over the next several years, Cool Chips plc is expected to develop additional management and staff who will be exclusively devoted to carrying out work unique to Cool Chips.

Borealis Technical Limited's Secretary is Fidecs Management Limited, Gibraltar.

In the past seven years, Cool Chips plc has advanced over US$6 million (a current, 30 September 2003 unaudited figure) to Borealis Technical Limited for Cool Chips research and development, from sale of its shares, with additional millions of dollars spent in research and support expenditures by Borealis Technical Limited. Repayment of these advances to Cool Chips plc is expected out of the royalties and license fee sharing agreements with Borealis Technical Limited.

Borealis Technical Limited owns and holds all of the patents relating to the Cool Chips technology, and has licensed these patents exclusively to Cool Chips plc. Under the terms of this agreement, Cool Chips plc pays to Borealis Technical Limited 50% of its revenue from licensing and sub-licensing fees and a royalty of 8% on all Cool Chips plc revenue from both royalties and direct sales of Cool Chips.

Cool Chips plc is also allowing sales of its shares by its parent company, in exchange for an account receivable from the parent company for the market value of shares of Borealis Exploration Limited obtained by the parent by the exchange of Cool Chips plc shares on a basis of 1 share of Cool Chips issued for 2 shares of Borealis Exploration Limited received by the parent company. This transaction allows the parent company to convert an open-ended liability to a fixed dollar liability, while allowing Cool Chips to receive accounts receivables at good rates for its shares.
# Appendix A: Product Comparison Charts

## Projected Attributes/Specifications/Tolerances

<table>
<thead>
<tr>
<th></th>
<th>Cool Chip Variants</th>
<th>Conventional Technology</th>
<th>Peltier/Thermo electric</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Variant 1</td>
<td>Variant 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gap Build</td>
<td>AvtoMetals Build</td>
<td></td>
</tr>
<tr>
<td>Noise output</td>
<td>None</td>
<td>None</td>
<td>High. electric motor</td>
</tr>
<tr>
<td>Radio Frequency</td>
<td>Low. Some electronic</td>
<td>None.</td>
<td>Moderate (motor)</td>
</tr>
<tr>
<td>Interference</td>
<td>switching</td>
<td>DC devices</td>
<td></td>
</tr>
<tr>
<td>Radiation resistance</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Chemical resistance</td>
<td>High, depending on packaging</td>
<td>High, depending on packaging</td>
<td>Depends on packaging. Leakage problems</td>
</tr>
<tr>
<td>Toxicity</td>
<td>None</td>
<td>None</td>
<td>Moderate</td>
</tr>
<tr>
<td>Modularity</td>
<td>Very high. Failed devices can be replaced in seconds</td>
<td>Very high. Failed devices can be replaced in seconds</td>
<td>Very low. non-modular</td>
</tr>
<tr>
<td>Failure mode</td>
<td>No vacuum required. Most physically robust design</td>
<td>If vacuum seal breaks, device fails</td>
<td>Leakage, mechanical failure, motor failure</td>
</tr>
<tr>
<td>Shock vibration</td>
<td>Comparable to semiconductors</td>
<td>Comparable to semiconductors</td>
<td>Complications with high-G-forces and vibration.</td>
</tr>
<tr>
<td>resistance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lifespan</td>
<td>Very long</td>
<td>Very long</td>
<td>Moderate/long</td>
</tr>
</tbody>
</table>

"Cool Chip™" is a trademark of Cool Chips plc
### Appendix B: Patent Protection

**Projected Attributes/Specifications/Tolerances (cont.)**

<table>
<thead>
<tr>
<th></th>
<th>Cool Chip Variants</th>
<th>Conventional Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Variant 1</td>
<td>Variant 2</td>
</tr>
<tr>
<td>Overall Reliability</td>
<td>Very high. Extremely robust materials</td>
<td>Very high, extremely robust</td>
</tr>
<tr>
<td>Possible operating temperature regions.</td>
<td>-272°C (1° K) to 1,200°C</td>
<td>-272°C to 1,000°C</td>
</tr>
<tr>
<td>Maximum operating ΔT, hot to cold side</td>
<td>500°C Can be multi-staged</td>
<td>500°C Can be multi-staged</td>
</tr>
<tr>
<td>Power-to-Volume ratio (watts of heat pumped per cm³)</td>
<td>3-4</td>
<td>10-20</td>
</tr>
<tr>
<td>Power-to-Weight ratio (watts pumped per gram of weight)</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Efficiency, as a percentage of Carnot theoretical maximum</td>
<td>50-70%</td>
<td>50-70%</td>
</tr>
<tr>
<td>Manufacturing cost per watt pumping capacity</td>
<td>$0.05-$0.10 (projected)</td>
<td>$0.01-$0.03 (projected)</td>
</tr>
</tbody>
</table>
Comparison between Cool Chips based home refrigerator and conventional home refrigerator

<table>
<thead>
<tr>
<th></th>
<th>Conventional compressor system</th>
<th>Simulated Cool Chips refrigerator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Size</strong></td>
<td>Largest home refrigerator in 2002 will be 28 cubic feet</td>
<td>Increase to 32 cubic feet due to increased efficiency and elimination of space occupied by compressor</td>
</tr>
<tr>
<td><strong>Cost</strong></td>
<td>Baseline</td>
<td>$20-$30 savings at the same efficiency</td>
</tr>
<tr>
<td><strong>Efficiency</strong></td>
<td>Consumes 492 kw hr / yr for typical 18’ unit</td>
<td>Projected to be less than 350 kw hr / yr for the same unit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer saves more than US$12.00 per year</td>
</tr>
<tr>
<td><strong>Noise</strong></td>
<td>42 dbA sound pressure Noisy startup and shutdown</td>
<td>Less than 36 dbA sound pressure No startup noise</td>
</tr>
<tr>
<td><strong>Reliability</strong></td>
<td>Baseline</td>
<td>Better - no moving parts</td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td>Wide temperature swings when compressor cycles on and off (5 to 10 F)</td>
<td>Continuous control provides less than 1 F temp swing. Food lasts much longer (could be more than twice as long)</td>
</tr>
<tr>
<td><strong>Moisture tolerance</strong></td>
<td>Single heat exchanger collects ice in freezer due to moisture from fresh food compartment</td>
<td>Separate heat exchangers for fresh food and freezer keeps moisture from entering the freezer</td>
</tr>
<tr>
<td><strong>Defrosting</strong></td>
<td>Big heater melts ice and warms freezer to 40 F Defrost energy is 10-15 percent of total energy consumption</td>
<td>Very little frost collects in the Freezer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Heat pump defrost just melts ice and does not heat air</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Defrost energy is less than 1% of total</td>
</tr>
<tr>
<td><strong>Frozen Food life</strong></td>
<td>Short with freezer burn</td>
<td>Reduced defrost temperature swing increases food life</td>
</tr>
<tr>
<td><strong>Environmental</strong></td>
<td>Uses HFC (CFC in developing countries) Contributes to CO2 production at power plant</td>
<td>No HFC; No CFC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Contributes 30 percent less to CO2 production</td>
</tr>
<tr>
<td><strong>Hot heat exchanger</strong></td>
<td>Condenser with fan</td>
<td>Heat is rejected by cabinet walls (from increased efficiency)</td>
</tr>
<tr>
<td><strong>Heat transfer</strong></td>
<td>Heat exchangers used only half the time when the compressor is on</td>
<td>Heat exchanger effectiveness is doubled since the unit runs continuously. (This increases efficiency)</td>
</tr>
<tr>
<td><strong>Part count</strong></td>
<td>250 parts</td>
<td>Eliminate refrigerant tubing, oil, defrost heater, controls, wire, etc.</td>
</tr>
</tbody>
</table>
Appendix B: Patent Protection

Cool Chips plc’s technologies are protected by a family of patents held by Borealis Technical Limited, with all rights assigned to Cool Chips plc. There are at present over 50 provisional, pending, allowed, or issued patents which relate to Cool Chips plc’s business, and additional patents will be filed as development proceeds. The Borealis Technical Limited pending and issued patent base offers extremely broad and thorough coverage of the technology. Cool Chips plc exclusively licenses this technology worldwide, through its agreements with Borealis Technical Limited.

We expect that there would be a significant time lag before any potential competitor could even begin to infringe on Cool Chips plc’s patents. Borealis Technical Limited has spent years on Cool Chips to date, and the work has been interdisciplinary, utilizing physics, chemistry, semiconductor manufacturing techniques, and engineering. Cool Chips plc will at least continue to try to make it in the interest of the companies in the thermal management market to license our technology rather than trying to undermine our intellectual property position. However, if enforcement is required, the patents are extremely strong, and broadly enforceable. Our solicitors have informed us that it should be possible to successfully enforce the Borealis Technical Limited patent position against encroachment by competitors. The Federal Patent Court System has established in the Washington DC area what is known as the “Rocket Docket”. Patent cases in this Court are now routinely heard and adjudicated in 6 to 9 months. This Court significantly increases the danger to those who infringe patents, because quick enforcement of US Patent PTO penalties will enhance the value of our entire patent portfolio.

Cool Chips plc also expects, in the course of its research and development, to add considerably to the patent protection and IP protection already enjoyed by the Cool Club. The company is always looking for new and novel ways to produce cooling and package our cooling technologies or other cooling technologies. Cool Chips plc retains 100% of the rights to all cooling technologies and all improvements developed by itself, its license holders and Borealis Technical Limited, all of which are placed in the Cool Club.
Appendix C: Corporate Information

Legal Business Description

Company Name
Cool Chips Public Limited Company

Registered No (Gibraltar) 57885

Legal Form of Business
A Public Limited Company Incorporated under the Laws of Gibraltar.
23 April 1996, Gibraltar Company Number # 57885,
CUSIP Number X16065 10 8.

Business Location
Gibraltar, with staff and research facilities worldwide.

Registered Office & Corporate Headquarters
8-10 Montague Pavilion
+350-59995
Fax +350-59059

Auditors
Moore Stephens
Suite 5 Watergardens 4
Waterport
Gibraltar

Share Transfer Agent
OTR Securities Transfer Agent & Registrar
1000 SW Broadway
Suite 920
Portland, Oregon 97205
USA
Phone: +1.503.225.0375
Fax: +1.503.273.9168
Robert E. Roach Manager,
BobR@transfer.com

Share Listing:
www.pinksheets.com
Symbol: COLCF
Board of Directors

Rodney T. Cox - Chairman and Chief Executive Officer of Cool Chips plc and of its parent and affiliated companies, Dr. Cox is also a member of the Executive, Audit, and Compensation Committees of Cool Chips plc, and serves as the Company's acting chief financial officer.

Peter Vanderwicken - Member of the Board of Directors of Cool Chips plc and of its parent and affiliated companies, Mr. Vanderwicken is also chairman of the Audit Committee of Cool Chips plc.

Isaiah W. Cox - Chief Operating Officer and a Member of the Board of Directors of Cool Chips plc and of its parent and affiliated companies, Mr. Cox also serves on the Executive and Compensation Committees of Cool Chips plc.

Wayne S. Marshall - Member of the Board of Directors of Cool Chips plc and of its parent and affiliated companies, Dr. Marshall is also Chairman of the Executive and Compensation Committees and co-chairman of the Audit Committee for Cool Chips plc.

Nechama C. Cox - Member of the Board of Directors of Cool Chips plc and of its parent and affiliated companies.

Stuart Harbron - Chief Patent Officer and a Member of the Board of Directors of Cool Chips plc and of its parent and affiliated companies.

Iris Oren Cox - General Counsel and a Member of the Board of Directors of Cool Chips plc and of its parent and affiliated companies.

Giulio Pontecorvo - Member of the Board of Directors of Cool Chips plc and of its parent and affiliated companies.

Corporate Secretary

Fidecs Management Limited
Address: 8-10 Montague Pavilion, Gibraltar
Incorporated: In Gibraltar on 5th June 1990
Appointed: 21st May 2001
Appendix D: Press Releases

Boeing Completes Evaluation of Borealis Cool Chips Technology
Seal Beach, Nov. 30, 2001 (released by Boeing)

The Boeing Company (NYSE: BA) has completed an evaluation of a new technology called Cool Chips that could provide lighter, more efficient and more affordable cooling systems in the future.

The evaluation, conducted under an agreement with Cool Chips plc, a subsidiary of Borealis Exploration Limited (BOREF), showed that the principles under which the new Cool Chips technology operate are sound, that the measured physical data complied with the theory, and that further development and evaluation are needed.

Cool Chips are a form of vacuum diode that pumps heat from one side of the chip to the other to provide localised cooling and refrigeration. The technology is solid state and operates silently without the use of motors or environmentally unfriendly fluids.

Because they are smaller and lighter than competing technologies, and promise greater efficiency, Cool Chips have potential applications for thermal management in aircraft and spacecraft, where size, weight and power requirements are at a premium. Such applications include the cooling of avionics, sensors, environmental air and galleys.

The Cool Chips evaluation was conducted by the Boeing Phantom Works, the advanced R&D unit of Boeing. Under the terms of the agreement with Cool Chips plc, Boeing has the right of first refusal on this new technology for aerospace applications.

Boeing is the world's largest manufacturer of commercial and military aircraft, and NASA's largest contractor. The company's capabilities include helicopters, defense systems, missiles, rocket engines, launch systems, satellites, advanced information and communication systems, aviation support products and services, financial services, a global-mobile communications system, and a space-based air traffic management system.

###

Contacts: Dave Phillips 312-544-2125
Cool Chips Discloses Application Of Quantum Mechanics In High-Efficiency Nanotech Cooling Devices
Gibraltar, 14 May 2002 (released by Cool Chips plc)

Cool Chips plc (COLCF) said that its Cool Chips, wafer-thin discs designed to produce cooling or refrigeration more efficiently than any competing technology, use quantum mechanical electron tunneling as the primary cooling mechanism. The Cool Chip is one of the first transformative technologies to emerge from the nanotechnology revolution.

The Cool Chip technology could eventually replace nearly every existing form of cooling, air conditioning, and thermal management. Prototype devices are being shown publicly for the first time at the Nanotech Planet Conference in San Jose, California, that begins today. The company has not previously disclosed the full scientific basis for its technology.

Because of the inherent advantages in cooling across a gap using electron tunneling, Cool Chips are projected to attain efficiencies much higher than those previously available in cooling systems, and they are much less than 10% of the size and weight of compressors. Cool Chips are modular, and can be packaged in arrays to cool virtually any size heat load.

The company expects its Cool Chip technology, which has been in development since 1994, to replace all thermoelectrics and compressors for cooling, in applications ranging from electronics and infrared sensors, to computer components, refrigeration, and air conditioning. Cool Chips are on target to have an overwhelming cost advantage.

Cool Chips will enable many new and improved consumer products. They will enable laptops to run cooler, for example, and make possible in-car soda and grocery coolers. A panel of Cool Chips one inch square will provide enough cooling for a refrigerator; a panel about two inches square will have the capacity to provide the air conditioning for a living room; and a panel about five inches square will supply enough cooling power to cool an entire house.

Most existing cooling systems use compressors and environment-damaging fluids and are 40-50% efficient. Smaller thermoelectric cooling devices, despite more than $1 billion spent on research, are only 8% efficient. Cool Chips are projected to operate at 70-80% of the maximum theoretical efficiency (Carnot) for cooling.

Cool Chips prototypes are small electronic devices similar in appearance to computer chips. When an electric current is applied, one side of the chip will become cold and the other side hot, as electrons "tunnel" across a 1-to-10 nanometre gap separating the two sides, carrying heat with them. Innate device advantages include high efficiency, solid-state design, silent operation, environmentally friendly materials and operation, and compact size for easy integration.

"We have demonstrated the capability to make multiple prototypes that show a tunneling current in excess of 10 amps, using a wafer area approximately 9 square cm in area," said Isaiah Cox, Cool Chips' president. "This is, by far, the largest tunneling current that has ever been reported across a gap, and we expect Cool Chips to make the first use of this quantum tunneling effect in a major commercial application."
The tunneling current can be harnessed to provide cooling of very high density. The theoretical heat flux for flat electrodes suspended 50 Angstroms from each other is on the order of 5000 watts per square centimetre. Cool Chips will be more than adequate for cooling the next generation of microprocessors, which will produce upwards of 100 watts of heat per square centimetre.

Cool Chips are currently in development, and it is expected to take over a year to complete prototypes which demonstrate high output and efficiency. Current prototypes are being used to increase the quantum tunneling, and cooling has not been directly measured to date. Once the tunneling output has been increased to a certain level, our scientists intend to begin increasing cooling output.

An IV curve and other information is now available on the Cool Chips website at http://www.coolchips.gi.

The Cool Chips technology is protected by an extensive patent portfolio. This coverage extends to include a broad array of techniques related to this unique thermal management system, which offers solutions for nearly any thermal management application.

Cool Chips plc, based in Gibraltar, is a majority-owned subsidiary of Borealis Exploration Limited (BOREF) and has 7,281,785 shares outstanding. Borealis' business is reinventing the core technologies used by basic industries, including electric motors, steelmaking, electrical power generation, and cooling and thermal management.

For further information contact:

Chris Bourne
Director of Public Relations
Cool Chips plc
+44 20 8571 5216
pr@coolchips.gi

COOL CHIPS PASSES TECHNICAL MILESTONE: ON TRACK FOR PRODUCTION
Cool Chips plc, Gibraltar 12th August 2002

Cool Chips plc (COLCF) is pleased to announce that its labs are now producing Cool Chip prototypes which have active tunneling areas of up to 10% of the surface area of each device. This is a significant technical achievement as it demonstrates that it is possible to repeatedly fabricate a vacuum gap of only a few nanometres across a macroscopic surface of several square centimetres. Tunneling currents in excess of 10A have been observed in laboratory testing.

“This technical achievement means that the single biggest technical challenge for completing working devices is demonstrably solvable.” said Cool Chips President Isaiah Cox. “While we are not yet demonstrating high output devices, all the rest of the development stages are engineering, and can in principle be completed within a few months.”

Cool Chips are wafer-thin discs designed to produce cooling or refrigeration more efficiently than any competing technology, using quantum mechanical electron tunneling as the primary cooling mechanism. The Cool Chip is one of the first transformative technologies to emerge from the nanotechnology revolution. Because of the inherent advantages in cooling across a gap using electron tunneling, Cool Chips are projected to attain efficiencies much higher than those available in current cooling systems. The Chips are less than 10% of the size and weight of compressors. Cool Chips are modular, and can be packaged in arrays to cool virtually any size heat load. The remaining steps for completing Cool Chips, and getting them ready for the marketplace include optimizing the gap to maximise tunneling, and then adding a thin film layer within the diode. Once that layer has been added, measurable cooling will be demonstrated.

“We have been working on thermotunneling since 1997,” said Mr. Cox, “and the production of commercially viable Cool Chips is now in sight.”

Cool Chips is planning to license its patented technology on an exclusive basis. “Cool Chips will be available only through licensee companies” said Mr. Cox. “It is our intention to grant exclusive licenses to companies to use this technology in applications for defined markets.” Cool Chips will be presenting the most recent results in detail in a paper at the 21st International Conference on Thermoelectrics August 25-29, 2002, to be held at the Hyatt Regency Hotel, Long Beach, California, USA.

The paper, by Cool Chips physicist Avtandil Tavkhelidze and co-authors Givi Skhiladze, Amiran Bibilashvili, Leri Tsakadze, Larisa Jangadze, Zaza Taliashvili, Isaiah Cox, Zauri Berishvili, and titled “Electron Tunneling Through Large Area Vacuum Gaps -- Preliminary Results” will be presented by Dr. Tavkhelidze on Monday, 26th August at 5pm. The technology is protected by an extensive patent portfolio covering general theory and specific techniques for thermotunneling and thermal energy conversion. More details are available on the Cool Chips plc web site at www.coolchips.gi including the full text of issued patents.

Cool Chips plc (COLCF) is a majority-owned subsidiary of Borealis Exploration Limited (BOREF) and has 7,365,460 shares outstanding as of 31 March 2002. Borealis Exploration Limited has 4,982,605 shares outstanding as of 31 March 2002. Both companies are based in Gibraltar. Borealis’ business is reinventing the core technologies used by basic industries, including electric motors, steelmaking, electrical power generation, and cooling and thermal management. For further information contact:

Chris Bourne
Head of Public Relations
Cool Chips plc
+44 20 8571 5216
COOL CHIPS PLC AND SRI INTERNATIONAL SIGN RESEARCH AGREEMENT
Cool Chips plc - Gibraltar - 4th December 2002

Cool Chips plc (COLCF) is pleased to announce that a research agreement has been entered into between Cool Chips and SRI International specifically for the further characterization and fabrication of prototype Cool Chip™ devices. SRI International is a leading independent research institute based in Silicon Valley.

The agreement specifies multiple development stages over a number of months, and includes IP provisions. Funding will be a combination of cash and Cool Chips shares.

About SRI International

Silicon Valley-based SRI International (http://www.sri.com) is one of the world’s leading independent research and technology development organizations. Founded as Stanford Research Institute in 1946, SRI has been meeting the strategic needs of clients for more than 55 years. The nonprofit research institute performs contract research and development for government agencies, commercial businesses and nonprofit foundations. SRI is well known for its innovations in information technology, telecommunications, engineering, pharmaceuticals, chemistry, physics, and the public policy areas of education, health, and economic development. In addition to conducting contract R&D, SRI licenses its technologies, forms strategic partnerships and creates spin-off companies.

About Cool Chips plc

Cool Chips plc was formed in 1996 to develop and market the Cool Chip™ - a wafer-thin disc designed to produce cooling or refrigeration through the use of quantum electron tunneling across a nanometre-scale gap.

Because of the inherent advantages in cooling across a gap using electron tunneling, Cool Chips are projected to attain efficiencies much higher than those available in current cooling systems in a package that is less than 10% of the size and weight of compressors. Cool Chips are modular, and can be packaged in arrays to cool virtually any size heat load.

The technology is protected by an extensive portfolio of patents, both issued and pending. More information is available on the Cool Chips plc web site at www.coolchips.gi including the full text of issued patents.

Cool Chips plc (COLCF) has 7,365,460 shares outstanding as of 31 March 2002.

For further information contact:
Chris Bourne
Head of Public Relations
Cool Chips plc
+44 20 8571 5216
pr@coolchips.gi
COOL CHIPS AND ROLLS-ROYCE SIGN AGREEMENT

Gibraltar, 7th July 2003, Cool Chips plc (COLCF)

Cool Chips plc (COLCF) and Rolls-Royce plc have signed a term sheet for a license agreement giving Rolls-Royce exclusive, worldwide rights to use the Cool Chips™ solid-state cooling technology for specific applications across its range of gas turbine products for civil aerospace, defence, marine and energy markets and for specific applications across electrical transmission, conditioning, and distribution.

Cool Chips are wafer-like discs using quantum mechanical electron tunnelling as the primary cooling mechanism. The devices are designed to produce cooling or refrigeration more efficiently than any competing technology, while weighing less than 10% of an equivalent compressor-based system. Cool Chips are modular in design and can be packaged to meet the needs of virtually any heat management application.

Peter Cowley, Rolls-Royce Chief Scientist – Research & Technology, said: "Rolls-Royce is committed to investment in emerging technologies as part of a continuous program for the improvement of efficiency, noise reduction and the lowering of emissions. We are very interested in the potential of Cool Chips.

If Cool Chips is able to deliver what it promises, this technology will revolutionise our electronic heat management systems – for example in our control electronics and for the power electronics which are increasingly used to distribute power around aircraft and ships. ‘More electric’ systems are becoming increasingly important to us as they should allow us to offer our customers reduced operating costs and greater system efficiency."

Isaiah W. Cox, president of Cool Chips plc, said: "Cool Chips offer a superb solution for heat management issues in advanced engine design, and Rolls-Royce is the perfect partner for implementing the technology across gas turbine markets in every major sector worldwide."

Contacts

For Cool Chips plc:

Chris Bourne:
+44 (0)208 571 5216
pr@coolchips.gi
http://www.coolchips.gi

For Rolls-Royce plc:

Gary Atkins:
+44 (0)1332 248389
gary.atkins@rolls-royce.com
About Cool Chips plc

Cool Chips plc was formed in 1997 to develop and market the Cool Chip™ -- a wafer-thin disc designed to produce cooling or refrigeration through the use of quantum electron tunnelling across a nanometer-scale gap.

Cool Chips plc (COLCF) based in Gibraltar, is a majority-owned subsidiary of Borealis Exploration Limited (BOREF) and had 7,997,138 shares outstanding at its fiscal year-end, 31 March 2003.

The technology is protected by an extensive portfolio of patents, both issued and pending. More information, including the full text of issued patents, is available on the Cool Chips plc web site at http://www.coolchips.gi.

About Rolls-Royce plc

Rolls-Royce plc is a global company providing power on land, sea and air. The company has established leading positions in civil aerospace, defence, marine and energy markets. It is investing in technology and capability that can be exploited in each of these sectors to create a competitive range of products.

Annual sales total nearly £6 billion, of which over 40 per cent currently comes from aftermarket services. The order book stands at more than £17 billion, which, together with aftermarket demand, provides visibility as to future activity levels. Company website: http://www.rolls-royce.com
COOL CHIPS plc ON TARGET FOR COOLING POWER

Gibraltar, 24th March 2004, Cool Chips plc (COLCF)

Cool Chips plc announces it is meeting targets for the manufacture of quantum thermotunneling devices having a work function capable of pumping 3-5 Watts of heat across a surface area of one square centimeter. The production process shows a consistently high yield within the target parameters.

Scientists at the company’s in-house research facility report that the devices, consisting of two wafer-like surfaces separated by a nanoscale gap, demonstrate work functions of 0.9 eV (electron volt) or better. The lower the work function, the easier it is for electrons to pass across the gap, carrying heat from one side of the device to the other. Using the company’s proprietary thin-film deposition techniques, production of experimental wafers with highly conformal surfaces is showing a 90% success rate.

Cool Chips plc President Isaiah W Cox said: “These results indicate that the Cool Chips technology is the only solid-state heat management solution able to meet the high demands of tomorrow’s products. From cooling next generation micro-processors to maintaining stable operating temperatures for critical aerospace applications, Cool Chips must be considered the leading breakthrough technology in the field.”

Cool Chips™ technology is based on principles of quantum mechanics by which electrons “tunnel” across a small gap of less than 10 nanometers, carrying heat with them in the form of kinetic energy.

The gap acts as an efficient insulator, so heat cannot flow back to its source. This insulating characteristic makes Cool Chips potentially much more efficient than other technologies, including conventional compressors. Full details are available on the Cool Chips plc web site at http://www.coolchips.gi together with the text of all issued patents.

Work on Cool Chips began in 1996 and has required several advances in nanoengineering, including the invention of electrodes with conformal surfaces and a gap of less than 10 nanometers, as well as the reduction in work function.

Cool Chips are expected to have thousands of applications ranging from aerospace to electronics cooling to air-conditioning, and will increase the versatility and availability of cooling, refrigeration, and air conditioning worldwide.

For further information contact:

Chris Bourne: +44 (0)208 571 5216
pr@coolchips.gi
http://www.coolchips.gi

About Cool Chips plc

Cool Chips plc was formed in 1996 to develop and market the Cool Chip™ -- a wafer-thin disc designed to produce cooling or refrigeration through the use of quantum electron tunnelling across a nanometer-scale gap.

Cool Chips plc (COLCF) based in Gibraltar, is a majority-owned subsidiary of Borealis Exploration Limited (BOREF) and had 7,997,138 shares outstanding at its fiscal year-end, 31 March 2003.

The technology is protected by an extensive portfolio of patents, both issued and pending. More information, including the full text of issued patents, is available on the Cool Chips plc web site at http://www.coolchips.gi
COOL CHIPS OPENS PROTOTYPE PRODUCTION FACILITY

Gibraltar, Cool Chips plc, 14 April 2004

Refers to: COLCF, BOREF

Cool Chips plc (COLCF) announced today that it has acquired a facility for prototype production of the core component of its proprietary cooling technology, Cool Chips™ and that the facility is now operational.

The new facility includes an automated vacuum deposition evaporator used for metallization in wafer fabrication, allowing a forty-fold increase in production capacity of wafer sandwiches where the electrodes that form the two halves of the sandwich are separated by a gap of less than 10 nanometers.

The prototype production facility enables greatly increased production of sandwiches for further development and testing, as well as initial production for high-value defence and aerospace applications.

The Company's development team reported last month that it is meeting targets for the manufacture of quantum thermotunneling devices capable of pumping 3-5 Watts of heat across a surface area of one square centimeter. The devices demonstrate work functions of 0.9 eV (electron volt) or better. The lower the work function, the easier it is for electrons to pass across the gap, carrying heat from one side of the device to the other. More than 90% of the sandwiches currently being produced show the required characteristics. The Company is actively addressing remaining production and packaging issues.

Cool Chips plc President Isaiah W. Cox said: "The ability to reliably produce the core sandwich in good quantities is an important step towards the goal of manufacturing working Cool Chips that can be packaged and sold for a variety of high-value applications."

The Cool Chips technology is based on principles of quantum mechanics by which electrons "tunnel" across a small gap of less than 10 nanometers, carrying heat with them in the form of kinetic energy.

The gap acts as an efficient insulator, so heat cannot flow back to its source. This insulating characteristic makes Cool Chips potentially much more efficient than other cooling technologies, including conventional compressors. Full details are available on the Cool Chips plc web site at www.coolchips.gi together with the text of all issued patents.

Work on Cool Chips began in 1996 and has required several advances in nano-engineering, including the invention of electrodes with conformal surfaces and a gap of less than 10 nanometers, as well as the reduction in work function.

Cool Chips are expected to have thousands of applications ranging from aerospace to electronics cooling and will increase the versatility and availability of cooling, refrigeration, and air conditioning worldwide.

For further information contact:

Chris Bourne: +44 (0)20 8571 5216
pr@coolchips.gi
http://www.coolchips.gi

About Cool Chips plc

Cool Chips plc was formed in 1996 to develop and market the Cool Chip™, a wafer-thin disc designed to produce cooling or refrigeration through the use of quantum electron tunnelling across a nanometer-scale gap.

Cool Chips plc (COLCF), based in Gibraltar, is a majority-owned subsidiary of Borealis Exploration Limited (BOREF) and had approximately 8,250,000 shares outstanding at 31 December 2003.

The technology is protected by an extensive portfolio of patents, both issued and pending. More information, including the full text of issued patents, is available on the Cool Chips plc web site at http://www.coolchips.gi.
“PIONEER PATENT” ISSUED FOR EFFICIENT NANOSCALE ENERGY CONVERSION

Gibraltar, 19th April 2004, Cool Chips plc, Power Chips plc
Refers to BOREF, COLCF, PWCHF

Efficient conversion of energy from heat to electricity or electricity to cooling is closer today than ever before, with a new breakthrough in nanotechnology engineering techniques.

Power Chips plc (PWCHF) and Cool Chips plc (COLCF), both majority-owned subsidiaries of Borealis Exploration Limited (BOREF), announce that they have received a breakthrough patent covering the use of highly efficient electron thermotunnelling to produce either electrical power or cooling. The patent, titled “Thermionic Vacuum Diode Device With Adjustable Electrodes” No. 6,720,704 was issued by the US Patent Office on April 13th 2004.

Power Chips™ are small wafer-like devices that use quantum mechanical tunnelling to convert heat to electrical current. Cool Chips™ are similar in construction, but operate in reverse, using electricity to pump heat from one side of the wafer to the other, enabling efficient active cooling.

Both devices consist of two electrodes separated by a tiny gap of less than ten nanometers. In addition, the surfaces of the two electrodes must match each other to within a few atoms, so that where there is a slight roughness, for example, a tiny pit in the surface of one electrode, the other must have a corresponding protrusion to match it.

The patent includes a description of the techniques used to create such conformal surfaces. The patent also discloses how to create the tiny gap and maintain it even while the device heats up or is subject to sudden shocks. These include the use of piezo elements to automatically adjust the spacing between the electrodes.

Creating the gap is done by coating an electrode with several films of different materials, thin enough to replicate any surface irregularities. The centre film is then removed by evaporation or dissolving, leaving two surfaces with matching irregularities. The materials involved are not expensive, and the patent refers to tungsten, lead and aluminium as possible candidates.

It was recently announced that the research team has reported the consistent production of electrode pairs with work functions of 0.9eV or less. This is being achieved with a 90% or better success rate using techniques similar to those described in the patent. It was also announced that a prototype production installation has been acquired which, once packaging solutions have been completed and production has commenced, can meet a substantial part of the initial military and aerospace demand for Cool Chips.

Isaiah Cox, President of Power Chips plc, said: “This is a breakthrough technology by any definition of the word. The ability to engineer and manipulate such a tiny gap between electrodes has been the crucial achievement in bringing this exciting technology from theory to reality. This ‘Pioneer Patent’, which is one of many patents held for these technologies, was first applied for in 1997. It is a part of our world-wide research and development activities focused on the efficient conversion of energy from heat to electricity or electricity to cooling using our breakthrough nanotechnology engineering techniques.”
Power Chips plc (PWCHF) will apply the tunnelling technology for power generation applications. Power Chips™ are projected to produce electric power more efficiently and less expensively than existing or emerging technologies. A business plan can be obtained at http://www.powerchips.gi/BusinessPlan.shtml

Cool Chips plc was formed in 1996 to develop and market the Cool Chip™, a wafer-thin disc designed to produce cooling or refrigeration through the use of quantum electron tunnelling across a nanometer-scale gap.

Cool Chips plc (COLCF) and Power Chips plc (PWCHF), both based in Gibraltar, are majority-owned subsidiaries of Borealis Exploration Limited (BOREF). Cool Chips plc had 8,250,000 and Power Chips plc had 8,000,000 shares outstanding at 31 March, 2004.

The technology is protected by an extensive portfolio of patents, both issued and pending. More information, including the full text of issued patents, is available on the Cool Chips plc web site at http://www.coolchips.gi and the Power Chips plc web site at http://www.powerchips.gi

Borealis Exploration Limited (BOREF) is a research and development company founded in 1968 and based in Gibraltar in the European Union. Borealis' business is reinventing the core technologies used by basic industries, including electric motors, steelmaking, electrical power generation, and cooling and refrigeration. For more information and forward looking statements please visit its web site at www.borealis.gi.

For further information please contact:

Power Chips plc
Cool Chips plc
Chris Bourne
Head of Public Relations
email: pr@powerchips.gi
Tel: +44 (0)20 8571 5216
Fax: +44 (0)20 8455 8701
Cool Chips plc
2003 Annual Report

Management’s Review of Progress

30 May 2003

Fellow Members:

In fiscal 2003 our Company made major progress toward completing development of working Cool Chips and, finally, toward achieving revenues and profits. We are not there yet, but we are getting close.

We continued to build and test prototype devices, while also working on developing manufacturing processes and technologies and also starting to engineer the interfaces and other components that will be required for refrigerators, air conditioners, and other products that will be based on our Cool Chips technology. In November we announced a joint research agreement with SRI International, a leading nonprofit industrial and governmental technology research organization in Palo Alto, California, to advise and assist us in this engineering work.

Our Cool Chip is one of the first transformative technologies to emerge from the nanotechnology revolution. Cool Chips are wafer-thin diodes that are designed to produce cooling or refrigeration more efficiently and at a lower cost than any available technology. They use quantum mechanical electron tunneling as the primary cooling mechanism, and we expect that over the next few decades they will replace virtually every existing cooling, air conditioning, and thermal management technology in use today.

Because of the inherent advantages in cooling across a nanometer-scale gap between two electrodes, Cool Chips are projected to attain efficiencies higher than those previously available in cooling systems, and far greater cooling performance than compressors of the same size and weight. The devices are small, silent, lightweight diodes that are scalable in arrays to meet any thermal management need from cooling a single microprocessor to air-conditioning a factory or home. They can produce cooling for any heat load from hundreds of degrees to below freezing temperatures, at projected efficiencies of 55% (conventional compressor systems operate at 40-50% efficiencies).

Cool Chips will have thousands of applications, from refrigerating cargo ships and air-conditioning cars to cooling X-ray machines or laptop computers. They can even be built into clothing to provide personal air conditioning. Already more than 200 distinct applications have been identified on commercial aircraft, for example.

Cool Chips offer a unique cooling solution and the first viable replacement option for the century-old compressor technology that is now dominant in nearly all forms of thermal management, including air conditioning, refrigeration, chilling, freezing, and cooling. Their potential market is huge; the global cooling industry has sales of more than $200 billion a year. Cool Chips offer a number of benefits over traditional systems that will give them a significant competitive advantage in capturing this large and mature market. In addition to their size, weight, and efficiency advantages, Cool Chips have no moving parts, operate silently, require little or no maintenance, and use no environmentally harmful refrigerants.
We have been working on new cooling technology since 1994, and on our proprietary, patented thermotunneling technology since 1997. This is a long time for development of a new technology—longer than most companies could tolerate—but we believe the results will be worth the wait. No significant new cooling technology has emerged since Willis Carrier patented the air conditioner compressor system in 1902. We expect that Cool Chips will become the cooling technology of choice, for virtually all applications, for the 21st Century.

Once we have completed working Cool Chips, we expect that licensing fees, direct sales, and revenues will soon follow. Our discussions with dozens of companies worldwide over the last several years have shown there is intense interest in our technology and intense demand for better cooling solutions. We anticipate that, with working chips, Cool Chips plc will experience one of the fastest demand-growth curves for any new industrial product in history. Indeed, we expect to achieve significant revenue and income within a few months. Our current business plan projects that, in the first 12 months after we achieve production-prototype Cool Chips, our revenue will approximate $827 million with net income of approximately $427 million. These figures are projected to increase by calendar 2007 to revenue of $6.3 billion and net income of $4.3 billion.

Much more information about our Company and our technology, including our complete current business plan including financial projections, full texts of issued patents, and extensive descriptions of our Cool Chips technology, is available on our Website at www.coolchips.gi.

**Organization and Operations**

Cool Chips plc is a member of the Borealis Family of Companies and is a publicly-traded indirect majority-owned subsidiary of Borealis Exploration Limited. Borealis owns 5,212,022 of our 7,997,138 outstanding shares, or 65% of our shares. Like our parent and most associated companies, Cool Chips plc is incorporated in Gibraltar.

While our headquarters and legal domicile are in Gibraltar, Cool Chips operates as a virtual company, and the Internet plays a dominant role in our day-to-day work. It is the means by which we manage our businesses, discuss new ideas, and promote ourselves to the outside world. Modern communications technology has allowed us to circumvent the traditional problems associated with working on four continents and twenty time zones. Because of this, we have access to facilities and personnel about which a company of our size would normally only be able to dream.

Cool Chips has consultants around the world, all of whom work over e-mail. Management and technical discussions take place over the Net. We have a continual Board of Directors meeting 24 x 365, with an annual traffic of over 2,000 messages to each board member. Cool Chips has intense direct participatory management, and many consultants to the Company sit in on the board meetings and provide input even while they are not voting members.
Our Website, www.coolchips.gi, makes information about our technology available, and informs shareholders, other companies, and the general public about Cool Chips. As patent offices issue more patents, a more complete picture of our extensive research efforts will become publicly available on the Website.

Additionally, our parent company, Borealis, sends out a weekly update (as well as daily share trades with both Borealis and Cool Chips prices) to shareholders and to all the major news organizations and other interested parties, detailing our ongoing work and progress (please e-mail pr@coolchips.gi if you would like to receive these updates). Through this wide distribution, we are able to keep people better informed than through traditional channels. Your management uses this technology to maintain a close relationship with our shareholders.

This virtual company structure is great to work with and allows us to have many people directly involved in the decision-making processes at Cool Chips. This approach may not be conventional, but the results to date have validated the business structure.

**Patents and Intellectual Property**

All patents relating to the Cool Chips technology are held by our direct parent, Borealis Technical Limited, which has granted Cool Chips plc an exclusive, perpetual, worldwide license to them for all cooling-related applications. Borealis Technical Limited so far has been granted more than 18 U.S. and international patents for its scientific and technological advances in cooling and refrigeration.

Several of these patents are “pioneer” patents, reflecting the fact that they are the first patents to be issued in an entirely new field of technology, or represent a technical revolution in a previously-defined field. Pioneer patents are those to which most later patents in a field make reference, or on which later patents build by adding new improvements to the field. Because pioneer patents represent the result of groundbreaking scientific discoveries or development, the courts have found that they merit a wide breadth of protection in construing their claims and specifications.

Because our scientific discoveries and technical advances are the core of our business, we are very careful about protecting these assets. Patenting and otherwise protecting our technologies is an important activity at Cool Chips and consumes a considerable portion of our resources. We have developed an extensive library of intellectual property and we intend to protect it vigorously.

In fiscal 2003 Borealis Technical was granted three new U.S. patents for improvements related to our Cool Chips technology. It also filed applications for additional cooling-related patents, and now has a considerable number of applied-for, in-process, and pending patent applications.
Financial Report

Management’s Discussion and Analysis of 2003 Results

Your Company has no outstanding liabilities and has net assets as of financial year-end 2003 of $5,212,641 in accounts receivable compared to $2,296,875 in accounts receivable in financial year 2002.

The total cumulative loss in financial 2003 was $298,800 compared to a cumulative loss of $255,600 for financial year 2002. These numbers are generated from the management fee paid to Borealis Technical Limited of $43,200 a year.

All of your Company’s expenses are paid by its parent company, Borealis Technical Limited.

All Cool Chips plc share sale proceeds go to Borealis Technical Limited which are then owed back to Cool Chips plc.

When Cool Chips plc is a non-development stage company, at that point Cool Chips plc will become free-standing and it will pay its own bills. Basically Cool Chips plc is currently a ‘kept company’, where its balance sheet and financial strength are maximized.

Upon no longer being a development stage company, Borealis Exploration Limited has an 8% gross royalty on all sales and a 50% share of all sublicense revenue. These funds will be used to pay back the funds due Cool Chips plc from its parent company.

It should be noted that Cool Chips plc is also offering to trade one of its own shares for two Borealis Exploration Limited shares. The net effect of these transactions is that the Company ends up with additions to its accounts receivable of the value of the Borealis Exploration shares, and Borealis Technical Limited (acting as agent for Borealis Exploration) has exchanged an open-ended obligation for a fixed-dollar obligation. This is win/win arrangement for both parties.

Your company is very healthy and carries on extensive research, development, and sales work worldwide.

Conclusion

We want to thank all our shareholders for their continued help, assistance and support.

We feel our future is very bright. With announced working prototype Cool Chips™ in hand we expect significant licensing transactions. When we have working production-prototype devices and move into small-scale production, the revenue levels will be simply amazing.

World-changing devices that are patented and proprietary can initially command very high prices in military and aerospace applications where size and efficiency instead of cost are supreme.

Thanks for being along for the ride and for your tremendous support in the past when Cool Chips were nothing but an impossible dream.
Forward-Looking Statement

The discussion of the Company's business and operations in this report includes in several instances forward-looking statements, which are based upon management's good faith assumptions relating to the financial, market, operating and other relevant environments that will exist and affect the Company's business and operations in the future. All technical, scientific, and commercial statements regarding technologies and their impacts are based on the educated judgment of the Company's technical and scientific staff. No assurance can be made that the assumptions upon which management based its forward-looking statements will prove to be correct, or that the Company's business and operations will not be affected in any substantial manner by other factors not currently foreseeable by management or beyond the Company's control. All forward-looking statements involve risks and uncertainty. The Company undertakes no obligation to publicly release the result of any revisions to these forward-looking statements that may be made to reflect the events or circumstances after the date hereof or to reflect the occurrence of unanticipated events including those described in this report, and such statements shall be deemed in the future to be modified in their entirety by the Company's public pronouncements, including those contained in all future reports and other documents given to shareholders, the investing public and the Government of Gibraltar.
Cool Chips plc  
*Directors and Officers*

**Board of Directors**

Iris Oren Cox, J.D.  
Joseph J. Cox, B.A.  
Rodney T. Cox, Ph.D.  
Wayne S. Marshall, Ph.D.  
Isaiah W. Cox, A.B.  
Nechama J. Cox, Ph.D.  
Stuart Harbron, Ph.D.  
Peter Vanderwicken, A.B.

**Officers**

Rodney T. Cox, Chairman, Chief Executive Officer, and Acting Chief Financial Officer

Isaiah W. Cox, President and Chief Operating Officer

Stuart Harbron, Chief Patent Officer

James Magdych, Chief Information Officer

**Investor Information**

Extensive information for investors can be found on our Website at [http://www.coolchips.gi/](http://www.coolchips.gi/). Our annual and quarterly reports for the past five years are posted there, as well as full information about the Company and our technologies. The site also has links to quotation systems that report our current stock prices.

If you have a question about Cool Chips, please write to us at pr@coolchips.gi.
COOL CHIPS PUBLIC LIMITED COMPANY

Financial Statements
for the year ended 31 March 2003
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COOL CHIPS PUBLIC LIMITED COMPANY
Registered No (Gibraltar) 57885

DIRECTORS AND OFFICERS

Directors

Rodney T Cox
Benjamin J Cox (resigned 30th August 2002)
Peter Vanderwicken
Isaiah W Cox
Wayne S Marshall
Nechama C Cox
Iris O Cox
Joseph J Cox
Stuart Harbron (appointed 23rd July 2002)

Secretary

BDO Fidecs Management Limited

Registered Office

Suite 3G, Eurolife Building
1 Corral Road
Gibraltar

Auditors

Moore Stephens
Suite 5 Watergardens 4
Waterport
Gibraltar
COOL CHIPS PUBLIC LIMITED COMPANY

DIRECTORS’ REPORT

The directors submit their report and the audited financial statements for the year ended 31 March 2003.

Corporate Profile

The Company was incorporated on 23rd April 1996 in Gibraltar. On the 24 April 2002 the shares in Cool Chips were approved for trading by the NASD in the United States on www.pinksheets.com under the Symbol COLCF.

Activities

The principal activity of the Company is that of researching and developing the “Cool Chips” technology.

Results and Review of Business

The results for the year are shown in the profit and loss account on page 6.

Borealis Technical Limited (“Technical”), the parent company, has conducted basic industrial research on its “Cool Chips” technology since 1994, for which it has patents issued and pending. All of the research expenditures to date have been undertaken by Technical and funded by Borealis Exploration Limited, the ultimate parent of the Company. Technical had received deposits in the current and prior years on behalf of the Company towards the issue of shares in the Company.

An Intellectual Property Agreement was signed effective 1st January 1999, whereby Technical has granted the Company the exclusive worldwide rights for sublicensing the “Cool Chips” technology. In consideration for the rights granted to the Company, the Company shall pay Technical an 8% royalty based on net sales of licensed products and services sold by the Company and 50 % of all sublicense income. To date the “Cool Chips” technology is still under development such that the Company has not made any related sublicense sales.

Results and Review of Business (Continued)

The Company has been in the development stage since its inception. The Company intends to retain its sublicense rights granted by Technical. These financial statements have been prepared in accordance with generally accepted accounting principles with the assumption that the Company will be able to realize its assets and discharge its liabilities in the normal course of business rather than through a process of forced liquidation. From inception to 31st March, 2003, the Company has lent money raised on its behalf to Technical and Borealis Exploration Limited, who are also in a development stage and have conditions subject to raising substantial doubt about their ability to continue as a going concern. These conditions also raise substantial doubt about the ability of the Company to continue as a going concern. The company is a public company with a buoyant market in its shares which are being traded at prices well above par. This affectsubstantial market value which affects its ability to raise funds for future development. Management of the Company has indicated they have no intention to demand repayment of the amounts owing from Technical until the “Cool Chips” technology is being licensed in the marketplace. The Company and Technical are actively working together to negotiate sales or further sublicensing of its technology to various parties, which is expected to generate profitable operations in the future. To the extent additional funds are required, the Company will attempt to raise these funds through future sales of its own shares. However, there can be no assurance that the Company will be successful in its actions. The financial statements do not contain any adjustments which might be necessary if the Company is unable to continue as a going concern.
DIVIDENDS

There were no dividends declared during the year.

DIRECTORS AND THEIR INTERESTS

The directors who served during the year were as stated on page 1.

The interest of the directors in the shares of the Company in the year were as follows.

<table>
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<tr>
<td>Rodney T Cox</td>
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<td>Peter Vanderwicken</td>
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<td>Isaiah W Cox</td>
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<td>Wayne S Marshall</td>
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<td>Nechama C Cox</td>
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<td>Rebecca D. Cox</td>
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<tr>
<td>Joseph J Cox</td>
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<tr>
<td>Stuart Harbron</td>
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SHARE OPTIONS

During the year 425,621 options were exercised. There are now no options outstanding. There are no further plans to issue options in the immediate future.

DIRECTORS’ RESPONSIBILITIES

The directors are responsible for preparing financial statements for each financial year which give a true and fair view of the state of affairs of the company at the end of the financial year and of the profit or loss for that year and which comply with the Gibraltar Companies Ordinance 1930, the Gibraltar Companies (Accounts) Ordinance 1999 and the Gibraltar Companies (Consolidated Accounts) Ordinance 1999. In preparing the financial statements, appropriate accounting policies have been used and applied consistently, reasonable and prudent judgements and estimates have been made, and applicable accounting standards have been followed. The directors are responsible for maintaining adequate accounting records, for safeguarding the assets of the company, and for preventing and detecting fraud and other irregularities.

AUDITOR

A resolution to reappoint Moore Stephens will be proposed at the Annual General Meeting.

By order of the Board

Isaiah W Cox  
Director  
10 June 2003

Rodney T Cox  
Director  
10 June 2003
REPORT OF THE AUDITORS
To the members of Cool Chips Public Limited Company

We have audited the financial statements on pages 5 to 9 which have been prepared under the historical cost convention and the accounting policies set out on page 7.

This report is made solely to the company's members as a body, in accordance with the Companies Ordinance 1930. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company's members as a body, for our audit work, for this report, or for the opinions we have formed.

Respective responsibilities of directors and auditors

As described in the report of the Directors, the company’s Directors and management are responsible for the preparation of financial statements. It is our responsibility to form an independent opinion, based on our audit, on those statements and to report our opinion to you. We have not audited audited the comparative figures, which were audited by other auditors, who and we expressed an unqualified opinion on these statements. on which these are based.

Basis of opinion

We conducted our audit in accordance with Auditing Standards issued by the Auditing Practices Board in the United Kingdom. An audit includes examination, on a test basis, of evidence relevant to the amounts and disclosures in the financial statements. It also includes an assessment of the significant estimates and judgements made by the directors in the preparation of the financial statements and of whether the accounting policies are appropriate to the company’s circumstances, consistently applied and adequately disclosed.

We planned and performed our audit so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or other irregularity or error. In forming our opinion we also evaluated the overall adequacy of the presentation of information in the financial statements.

In forming our opinion, we have considered the disclosures made in note 2 of the financial statements in connection with the application of the going concern basis and the uncertainty with regards to securing continued financial support. In view of the significance of these matters we consider they should be drawn to your attention but our opinion is not qualified in these respects.

Opinion

In our opinion the financial statements give a true and fair view of the state of affairs of the company as at 31st March 2003 and of the loss for the year then ended in accordance with Gibraltar Accounting Standards and have been properly prepared in accordance with the Gibraltar Ordinance 1930 and the Gibraltar Companies (Accounts) Ordinance 1999.

Moore Stephens
CHARTERED ACCOUNTANTS

Gibraltar, 2 June 2003
## PROFIT AND LOSS ACCOUNT
For the year ended 31 March 2003

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>Note</th>
<th>2003</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration fees</td>
<td>5</td>
<td>43,200</td>
<td>43,200</td>
</tr>
<tr>
<td>Retained loss for the year</td>
<td></td>
<td>(43,200)</td>
<td>(43,200)</td>
</tr>
<tr>
<td>Retained losses brought forward</td>
<td></td>
<td>(255,600)</td>
<td>(212,400)</td>
</tr>
<tr>
<td>Retained losses carried forward</td>
<td></td>
<td>$ (298,800)</td>
<td>$ (255,600)</td>
</tr>
</tbody>
</table>

The company has had no discontinued activities during the year, accordingly, the above result for the company relates solely to continuing activities.

No statement of recognised gains and losses has been produced as the only recognised gains and losses occurring in the year are those disclosed in the Profit and Loss Account.

The notes on pages 7 to 9 form part of these Financial Statements.
COOL CHIPS PUBLIC LIMITED COMPANY

BALANCE SHEET
as at 31 March 2003

<table>
<thead>
<tr>
<th>Notes</th>
<th>2003</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Current Assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Debtors</td>
<td>2</td>
<td>5,212,641</td>
</tr>
<tr>
<td>Total Net Assets</td>
<td>$ 5,212,641</td>
<td>$ 2,296,875</td>
</tr>
<tr>
<td>Capital and Reserves</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Called up Share Capital</td>
<td>3,4</td>
<td>123,278</td>
</tr>
<tr>
<td>Share Premium Account</td>
<td>3,4</td>
<td>5,388,163</td>
</tr>
<tr>
<td>Profit and Loss account</td>
<td>4</td>
<td>(298,800)</td>
</tr>
<tr>
<td>Total Shareholders’ Funds</td>
<td>$ 5,212,641</td>
<td>$ 2,296,875</td>
</tr>
</tbody>
</table>

Signed on behalf of the Board on

The notes on pages 7 to 9 form part of these Financial Statements.
NOTES TO THE FINANCIAL STATEMENTS
For the year ended 31 March 2003

1 Principal accounting policies

The financial statements have been prepared in accordance with Gibraltar Accounting Standards and the Gibraltar Companies Ordinance 1930, the Gibraltar (Companies Accounts) Ordinance 1999 and the Gibraltar (Consolidated Accounts) Ordinance 1999 (together, ‘Gibraltar GAAP’)

a. Basis of accounting
The financial statements are prepared in accordance with the historical cost convention.

b. Reporting currency
The Company’s financial statements are presented in US dollars, which is the functional currency for operations.

c. Foreign currency translation
Transactions in foreign currency are recorded at the rate at the date of the transaction. Any monetary assets or liabilities denominated in foreign currencies are retranslated at the rate of exchange ruling at the balance sheet date.

d. Going Concern
These financial statements have been prepared under the going concern concept which assumes that the Company will continue in operational existence for the foreseeable future having adequate funds to meet their obligations as they fall due. Further information is set out in the Directors’ Report on pages 2 to 4.

e. Cash Flow Statements
The company meets the size criteria for a small company set by the Companies Act 1985 and therefore, in accordance with FRS1: Cash Flow Statements, it has not prepared a cash flow statement. A company with tens of millions in market value should have a cash flow statement

f. Taxation
The company and its subsidiaries have been granted exempt status under the Gibraltar Companies (Taxation and Concessions) Ordinance. Providing the company continues to satisfy the criteria for such status, including the payment of an annual government charge of £225 it will not be subject to Gibraltar Corporation Tax for a period of twenty-five years from 24 August 1999, the date on which it was granted such status. There is proposed legislation now pending approval that may change the tax status of the company in the foreseeable future, although it appears likely that a low or zero rate of taxation will apply under the proposed new structure
2. DEBTORS

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan to related party</td>
<td>$5,212,641</td>
<td>$2,296,875</td>
</tr>
</tbody>
</table>

Amounts due from the Company’s parent company are non-interest bearing, unsecured, and with no fixed terms of repayment.

3. CALLED UP SHARE CAPITAL

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorised share capital</td>
<td>$160,000</td>
<td>$160,000</td>
</tr>
<tr>
<td>10,000,000 ordinary shares @ £0.01 each</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shares issued during the year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shares issued during the year</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shares issued during the year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shares issued during the year</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shares issued during the year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shares issued during the year</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shares issued during the year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shares issued during the year</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shares issued during the year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shares issued during the year</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shares issued during the year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shares issued during the year</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. RECONCILIATION OF MOVEMENTS IN SHAREHOLDERS FUNDS

<table>
<thead>
<tr>
<th></th>
<th>Share Capital</th>
<th>Share Premium Account</th>
<th>Profit &amp; Loss Account</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>At 31 March 2000</td>
<td>114,691</td>
<td>1,089,055</td>
<td>(169,200)</td>
<td>1,034,546</td>
</tr>
<tr>
<td>Shares issued during the year</td>
<td>844</td>
<td>315,196</td>
<td>–</td>
<td>316,040</td>
</tr>
<tr>
<td>Loss for the year</td>
<td>–</td>
<td>–</td>
<td>(43,200)</td>
<td>(43,200)</td>
</tr>
<tr>
<td>At 31 March 2001</td>
<td>$ 115,535</td>
<td>$ 1,404,251</td>
<td>$ (212,400)</td>
<td>$ 1,307,386</td>
</tr>
<tr>
<td>Shares issued during the year</td>
<td>1,445</td>
<td>1,031,244</td>
<td>–</td>
<td>1,032,689</td>
</tr>
<tr>
<td>Loss for the year</td>
<td>–</td>
<td>–</td>
<td>(43,200)</td>
<td>(43,200)</td>
</tr>
<tr>
<td>At 31 March 2002</td>
<td>$ 116,980</td>
<td>$ 2,435,495</td>
<td>$ (255,600)</td>
<td>$ 2,296,875</td>
</tr>
<tr>
<td>Shares issued during the year</td>
<td>6,298</td>
<td>2,952,668</td>
<td>(43,200)</td>
<td>2,958,966</td>
</tr>
<tr>
<td>Loss for the year</td>
<td></td>
<td></td>
<td>(43,200)</td>
<td>(43,200)</td>
</tr>
<tr>
<td>At 31 March 2003</td>
<td>$ 123,278</td>
<td>$ 5,388,163</td>
<td>$ (298,800)</td>
<td>$ 5,212,641</td>
</tr>
</tbody>
</table>

5. RELATED PARTY TRANSACTIONS

In addition to related party transactions disclosed elsewhere in these financial statements, during the year ended 31 March 2003, the Company was charged $43,200 (2002 - $43,200) in fees for administrative services provided by Technical.

6. ULTIMATE PARENT COMPANY

The ultimate parent company is Borealis Exploration Limited, a company incorporated in Gibraltar whose registered office is at Suite 3G, Eurolife Building, 1 Corral Road, Gibraltar.
Appendix F: FS2004 Third Quarter Report

COOL CHIPS PUBLIC
LIMITED COMPANY

Financial Statements
for the nine months ended 31 December 2003
COOL CHIPS PUBLIC LIMITED COMPANY

PROFIT AND LOSS ACCOUNT
For the nine months ended 31 December 2003

<table>
<thead>
<tr>
<th></th>
<th>December 2003 $</th>
<th>December 2002 $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expenditure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration fees</td>
<td>32,400</td>
<td>32,400</td>
</tr>
<tr>
<td>Retained loss for the year</td>
<td>(32,400 )</td>
<td>(32,400 )</td>
</tr>
<tr>
<td>Retained losses brought forward</td>
<td>(298,800 )</td>
<td>(255,600 )</td>
</tr>
<tr>
<td>Retained losses carried forward</td>
<td>$ (331,200 )</td>
<td>$ (288,000 )</td>
</tr>
</tbody>
</table>
## COOL CHIPS PUBLIC LIMITED COMPANY

### BALANCE SHEET
as at 31 December 2003

<table>
<thead>
<tr>
<th>Description</th>
<th>December 2003</th>
<th>December 2002</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Debtors</td>
<td>$5,827,945</td>
<td>$3,797,741</td>
</tr>
<tr>
<td><strong>Total Net Assets</strong></td>
<td>$5,827,945</td>
<td>$3,797,741</td>
</tr>
<tr>
<td><strong>Capital and Reserves</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Called up Share Capital</td>
<td>$123,998</td>
<td>$120,836</td>
</tr>
<tr>
<td>Share Premium Account</td>
<td>$6,035,146</td>
<td>$3,964,905</td>
</tr>
<tr>
<td>Profit and Loss account</td>
<td>$(331,200)</td>
<td>$(288,000)</td>
</tr>
<tr>
<td><strong>Total Shareholders’ Funds</strong></td>
<td>$5,827,945</td>
<td>$3,797,741</td>
</tr>
</tbody>
</table>
Appendix G: Forward Looking Statement

The discussion of the Company’s business and operations in this report includes in several instances forward-looking statements, which are based upon management’s good faith assumptions relating to the financial, market, operating and other relevant environments that will exist and affect the Company’s business and operations in the future. All technical, scientific, and commercial statements regarding technologies and their impacts are based on the educated judgment of the Company’s technical and scientific staff. No assurance can be made that the assumptions upon which management based its forward-looking statements will prove to be correct, or that the Company’s business and operations will not be affected in any substantial manner by other factors not currently foreseeable by management or beyond the Company’s control.

All forward-looking statements involve risks and uncertainty. The Company undertakes no obligation to publicly release the result of any revisions to these forward-looking statements that might be made to reflect the events or circumstances after the date hereof, or to reflect the occurrence of unanticipated events; including those described in this report, and such statements shall be deemed in the future to be modified in their entirety by the Company’s public pronouncements, including those contained in all future reports and other documents filed by the Company with the relevant Securities Commissions.

This Statement may also be found at http://www.coolchips.gi/fwdlook.shtml