

CAPABILITY: Barringer has undertaken research projects primarily in the earth sciences in the disciplines of geology, geochemistry, electro-optics electromagnetics, magnetics and atmospheric physics. As a result of such projects, they have developed instrument systems and techniques in the fields of airborne and ground mineral exploration and environmental and process monitoring. They have, during the past five years, devoted a substantial portion of their efforts toward adapting for oil and gas exploration instrument systems and technology that they initially developed for mineral exploration. Recently, emphasis has been placed on military equipment for trace gas and liquid detection, and on rapid detection of drugs, explosive vapors and counterfeit bullion.

- Airborne Electromagnetic Systems – INPUT™ (INduced PUlse Transient), the most widely used airborne EM system in the western world for over 20 years; COTAN™ (CORrelation of TRANsients), an improved EM system offering greater depth penetration; and TIVAC, an adaptation for hydrocarbon exploration.
- Metal Detection Systems – Adaptation of above EM systems to specialized applications; and counterfeit bullion detector systems.
- Reflectance Spectroscopy for Remote Sensing – Hand-held Ratiometer Radiometer (HRRR); Field portable reflectance spectrometer (REFSPEC); and airborne laser fluorosensor systems.
- Trace Gas Detection – SO2 or NO2 remote sensor, COSPEC™; Gas filter correlation spectrometer for passive infrared remote sensing, GASPEC™; Drug and explosive vapor detection by ion mobility spectrometry; Mercury and its compounds in the environment; and microwave emission detection for gas chromatographic studies of pesticides and organics in the environment.
- Collection Systems for Analytical Geochemistry Studies – AIRTRACE™ helicopter or fixed-wing collection of aerosol samples; SURTRACE™ helicopter or ground-based collection of surface samples; and LASERTRACE, a rapid, inexpensive multi-element analysis of samples.
- On-line Process Stream Analysis – Heavy water analysis for CANDU nuclear reactors and heavy water manufacturing.

AVERAGE WORK FORCE: Engineers & Scientists – 26
(Canada Only)
Technical Support – 27

Barringer Research retains on staff a diverse group of scientists and engineers in the physical sciences. Barringer Magenta retains expertise in analytical chemistry, geochemistry, radon monitoring, and microbiology. The professional and supporting technical staffs shown above are for the metropolitan Toronto location only. The total US and Canadian professional strength is 40 scientists and engineers.

GROSS SALES: 1986 – \$8.4M
1987 – \$9.2M

PLANT SIZE: Barringer Resources Inc, Barringer Research Ltd, and Barringer Magenta Ltd lease the following office and laboratory space:

Location	Sq Ft	Purpose
15000 West 6th Ave, Suite 300 Golden, Colorado 80401	13,000	Office, Laboratory
304 Carlingview Dr Rexdale, Ontario	28,700	Office, Laboratory, & Mfg
1455 Deming Way, Suite 15 Sparks, Nevada 89431	7,200	Laboratory
3750 19th St, N. E. Calgary, Alberta	2,900	Laboratory
Field Aviation Hangar Malton (Toronto), Ontario	1,000	Avionics Workshop

EXPERIENCE: Barringer experience is world-wide. Recent R&D clients include British Petroleum, Petro-Canada Explorations Inc; TRW Systems Group (USA); National Research Council of Canada; Canadian Department of National Defense; Ontario Hydro; Department of Supply & Services (Canada); Rexnord Inc (USA); Atomic Energy of Canada Ltd; NASA Ames Research Center (USA); and Transport Canada. US DOD clients include Wright-Patterson AFB, OH – “Remote Detection of Chemical Vapors using Correlation Interferometric Techniques”, and AMCCOM – “UV Surface Sampling for Explosives”.

KEYWORDS: Airborne Electromagnetic Sensor; Airborne Laser Fluorosensor; Airborne Surveys; Data Analysis; Electro-Optics; Environmental Analysis; Geographic/Geologic Analysis; Hazardous Gas Detection; Infrared Instrumentation; Instrument Manufacture; Metal Detection; Remote Gas Detection; Remote Sensing; Signal Processing; Spectroscopy; Trace Gas Detection.

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BENDIX AVELEX Inc

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HISTORY: Bendix Avelex Inc is a unit of Allied-Signal Aerospace Company. From its beginning in Montreal, Quebec, Bendix Avelex has grown into a world class supplier of high-technology defence electronics and aerospace products and services. Products include thermal imaging systems, night vision goggles, vehicle navigation systems, artillery gun alignment and control systems, 3-dimensional gun alignment and positioning systems, high fidelity video interactive gunnery simulators, operational tactical training simulators, and aircraft engine control systems and accessories. Services include repair and overhaul and comprehensive after sales services and product support.

CAPABILITY: Bendix Avelex has established solid expertise in a wide range of engineering disciplines which include digital/analog electronics, software development, electro-optics, thermal imaging, lasers, simulation, communications, geo-magnetics, pneumatics, and fluid dynamics and hydro-mechanics.

These broad engineering skills are applied to the design of highly reliable products meeting stringent specifications in the fields of defense, aerospace, and general aviation for national and international customers.

The Electronics Manufacturing facility is equipped with latest generation continuous flow soldering and conformal coating equipment, environmental test cells which includes sinusoidal and quasi-random vibration systems, burn-in chambers, automatic test equipment for PCB diagnostics and repair; and a class 100 clean room. The Precision Machining Facility reflects the latest advances in metal removal technology, capable of consistently achieving tolerances of 50 millionths of an inch. High performance machines include 3 and 4 axis CNC and DNC machining centers, CNC lathes, programmable precision grinders and many other sophisticated machine tools.

The Bendix Avelex total quality concept ensures that reliability and dependability are designed in the product. This philosophy is an essential requirement when meeting the stringent demands of the aerospace and defense market place. This quality control system meets Canadian, US and NATO standards (AQAP-1) and is approved by the Canadian airworthiness authorities.

The Support Services Division of Bendix Avelex provides a diverse range of Integrated Logistic Support services. These include complete life cycle management and systems engineering support services,