

David York

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SUMMARY OF QUALIFICATIONS

Semiconductor technology reverse engineering professional with a uniquely diversified combination of experience and accomplishments in the areas of process/structure analysis, laboratory management, competitive analysis, process benchmarking, patent and portfolio management, technology and patent research, and expert litigation support.

SUMMARY OF EXPERTISE

Technology Analysis	Patent Analysis	Operations
Semiconductor Reverse Engineering	Patent and Portfolio Analysis	Multimillion-Dollar P&L Management
Hands-on Sample Preparation	Technology and Patent Research	Team Building and Staff Retention
Hands-on Equipment Operation	Technology Scouting/Mining	Customer Relations and Satisfaction
Materials Analysis	Prior Art Research Citation Analysis	Training and Staff Development
Technical Report Writing and Review	Claim Chart Formulation	Product Development and Marketing

KEY PROFESSIONAL ACCOMPLISHMENTS

SEMICONDUCTOR TECHNOLOGY ANALYSIS

- Performed and managed process, structure and circuit reverse engineering on a wide variety of products.
- Supported external clients with quality and competitive analysis of state-of-the art semiconductor products.
- Independently directed and coordinated twelve-person laboratory with annual sales exceeding \$2 million.
- Interfaced with a wide variety of clients at various organizational levels on a daily basis to provide quotations, answer questions, deliver preliminary results, and coordinate delivery of final reports.
- Created and directed Intellectual Property Group responsible for infringement, licensing and prior art projects.
- Multi-tasked by performing hands-on sample preparation and equipment operation with management duties.
- Responsible for writing, proofreading, and/or editing thousands of technical reports.

PATENT ANALYSIS AND RESEARCH

- Performed technical patent review and analysis on thousands of patents to support patent licensing and infringement analysis projects.
- Provided market research analysis to locate potential markets and targets for patented inventions.
- Applied technical analysis expertise to determine if patented elements would be easily detectable.
- Developed skills for efficiently locating information on the internet and through specialized search engines.
- Responsible for writing, proofreading, and/or editing claim charts, infringement and licensing analysis reports.
- Utilized citation analysis and technical document review to understand, analyze, and formulate opinions on patent value or risk, and identified possible prior art not cited in patents.
- Collaborated with patent attorneys to evaluate the validity of patents.

LITIGATION SUPPORT

- Served as a technical expert on an arbitration panel for a commercial licensing dispute spanning 2.5 years.
- Obtained first-hand experience reviewing a variety of case-related documents including patents, expert reports, witness depositions, technical evidence, declarations, and prosecution history.
- Heard oral arguments and testimony at hearings, reviewed motions, and provided impartial analysis and decisions on discovery disputes, claim construction, validity, infringement, and contract interpretation.
- Supported large semiconductor manufacturer's patent licensing program by extracting patent elements, analyzing competitors' products for evidence of features, and formulating claim charts to illustrate similarities.
- Provided analysis of client-supplied semiconductor and related products to document physical or schematic features and issued technical report on findings. Provided depositions to support report conclusions.

WORK HISTORY

Technology Analyst and Researcher, IC Microanalysis LLC: Phoenix, AZ: 2004 - present

Sole-proprietor, independent consulting firm providing customized technology research, litigation support, competitive intelligence, and patent analysis services.

Responsibilities:

- Provide customized technical consulting services to semiconductor and patent professionals and investors.

Accomplishments:

- Efficiently provided critical data to customers by creating a quick review process that minimized project time.
- Assisted clients' litigation by traveling to Smithsonian Institution and Canada to review and collect archived data.
- Served as a technical expert on an arbitration panel for a commercial licensing dispute.
- Protected chain-of-custody by coordinated and supervising activities at out-of-state laboratory.
- Supported non-technical Japan-based translator by proofreading and editing translated Japanese documents.

Manager, Process Analysis, Chipworks, USA (Acquired ICE): Scottsdale, AZ: 2001 - 2003

Technology services company employing approximately 80 people and providing competitive analysis, reverse engineering and patent infringement analysis of semiconductors and electronic systems.

Responsibilities:

- Independently directed and coordinated all U.S.-based operations of analytical services department.

Accomplishments:

- Improved financial performance and profitability by effectively monitoring P&L and quickly adjusting costs.
- Ensured smooth transition to and compliance with new corporate operating procedures by motivating staff.
- Minimized duplication of effort by integrating key department operating functions with new corporate office.
- Supported corporate ISO 9001 certification by revising and updating department operating procedures.
- Maintained high product quality and customer service through 9-month transition of U.S. operations to Canada

VP, Lab Manager, Engineer, Analyst - Integrated Circuit Engineering Corp: Scottsdale, AZ: 1979 – 2000

Independent consulting firm employing approximately 30 people and providing laboratory technology analysis, technical training, publications, and market research.

Responsibilities:

- Provided operations and technical management of \$3 million analytical services department employing 12 analysts with annual sales of \$2.5 million. Performed hands-on laboratory analysis in conjunction with management duties.

Accomplishments:

- Maintained 40% department profitability for 17 consecutive years by implementing efficient operational procedures.
- Tripled annual sales by expanding product line and developing long-term customer relationships.
- Grew client base from 10 to over 100 in one year by utilizing a focused marketing campaign.
- Increased annual income \$400,000 by assisting with development of internally-funded projects.
- Efficiently and cost-efficiently assisted fiscally-challenged customers by developing streamlined analysis process.
- Responded to changing client priorities and evolving market conditions by re-inventing products and processes.
- Reduced costs and increased profitability by developing processes that maximized usage of existing equipment.
- Controlled staffing costs by hiring primarily interns and new graduates for new non-management positions.
- Minimized new employee training time and maximized billable hours by utilizing an employee mentoring system

PROFESSIONAL AFFILIATIONS

- Member, Institute of Electrical and Electronic Engineers; Advisor, Article One Partners
- Expert, Gerson Lehrman Group Panel of Experts, Guidepoint Global, and Round Table Group Scholars

DEPOSITION EXPERIENCE

Deposed as a technical expert in support of laboratory results in the following cases:

- *Atari vs. Nintendo*, 1992 - Re: 10NES ROM source code.
- *Neomagic vs. Trident*, 1999 - Re: Circuit substrate power biasing.
- *Ericsson vs. Harris*, 2000 - Re: Fabrication process-telephone power circuit.

PUBLICATIONS

- *Successful Technologies Review, 2001* - Summary and comparison of new integrated circuit process technologies. Published in 2001 by Chipworks, USA.
- *Interlevel Dielectric (ILD) and Metallization Technologies Focused Technology Review*. Published in 2001 by Chipworks, USA.
- Thousands of competitive product analysis, quality construction analysis, infringement analysis, and reverse engineering reports on numerous different products while at ICE Corporation. Published 1979 - 2000. Some of these reports were selected by the Smithsonian Institution's National Museum of American History for inclusion in their *Chip Collection*, and can be viewed at <http://smithsonianchips.si.edu/>.

EDUCATION AND SPECIALIZED TRAINING

- Bachelor of Applied Science, Operations Management - Arizona State University, current GPA 4.33 (in progress)
- University Certificate – Multimedia Writing and Technical Communications - Arizona State University (in progress)
- Certificate of Completion – Introduction to Dreamweaver CS3
- Associates of Applied Science, Electronics Engineering - Stark State College
- Design of Experiments - ICE Corporation
- Integrated Circuit Fabrication and Status of the Industry - ICE Corporation
- Patent Review and Classification - Chipworks USA
- EAST and WEST Search Tool Training - US Patent and Trademark Office, Alexandria, VA
- State Bar of Arizona's American Arbitration Association (AAA) Private Arbitration Update Seminar - 2009
- Regularly attend various industry technical seminars and conferences - SEMICON, IRPS, IEDM

SPECIALIZED EXPERIENCE

- **Software:** MS Office (Word, Excel, Powerpoint, Publisher, Explorer), Filemaker, DesignWorks, Adobe Acrobat and Photoshop, Dreamweaver, equipment control software.
- **Laboratory Equipment:** Buehler Ecomet III Polisher, Isomet Saw, HP Faxitron X-ray, Nippon Scientific Instruments PA 103 Decapsulation System, Reichert/Polyvar Photomicroscopes, JVC TK-F7300V Digital CCD Camera, Olympus BX60M Optical with Digital Camera, American Optical, Nikon, and Bausch & Lomb Metallurgical Microscopes, Trion "Phantom" RIE, March and Tegal Plasmod Plasma Etchers, Polaron SC500 Sputterer, Philips 505 and 515 SEMs (LaB6 source) with Semicaps Image Acquisition, FEI XL30 SFEG FESEM, PGT Princeton Gamma-Tech Digital Spectrometer.
- **Analytical Techniques:** Chemical and mechanical decapsulation, optical inspection and imaging, chemical and plasma-based delayering, selective package and die metallurgical cross-sectioning, chemical feature enhancement, feature size and layer thickness measurements, FESEM sample preparation, high-resolution FESEM inspection and imaging, process and circuit reverse engineering.
- **Products:** Integrated Circuits (Memories, Microprocessors, Microcontrollers, Interface Products, Power FETs, Optoisolators, Optocouplers, Transistors), Packages, Pressure Transducers, Displays, Memory Cards, Hybrids, Passives (Chip Diodes, Chip Inductors, Chip Capacitors, Connectors), Printed Circuit Boards, Inkjet Cartridges.

Examples of Past Projects and Accomplishments

Semiconductor Analysis	Patent Analysis	Technology and Patent Research	Litigation, Licensing, Prior Use, Arbitration and Valuations
Responsible for operations and technical management of \$3 million analytical services lab employing 11 analysts. Annual sales exceeded \$2 million.	Reviewed and extracted data from patents to support patent analysis, investment and litigation-related projects.	Located relevant technical data from patent and non-patent databases, websites, blogs, and journals for state of the art research.	Supported broad range of clients including patent attorneys, patent agents, engineers, research analysts, R&D managers, department managers, and investors.
Utilized circuit reverse engineering techniques to extract design, layout, and circuit schematic information from completed products.	Provided detailed technical patent reviews to identify relevant technology and product applications areas, key concepts of the invention, means for supporting patents.	Researched patented concepts to determine if patented technologies are currently used, are older technologies, or are evolving technologies representing future opportunities.	Produced color-coded claim charts to illustrate similarities between technical evidence and claimed elements for due diligence, offensive and defensive infringement actions, and licensing negotiations.
Developed knowledge on a wide variety of product types from many different manufacturers.	Determined technical strengths and weaknesses of claimed elements related to current and potential future technology levels.	Utilized technology and research knowledge to locate possible target markets, manufacturers, and products utilizing the patented features.	Created Intellectual Property (IP) Analysis group in response to expanding client requirements.
Multi-tasked by performed hands-on semiconductor laboratory analysis while also managing semiconductor projects and personnel.	Performed patent portfolio review to quickly identify high-value patents for licensing and acquisition.	Researched patent and non-patent technical literature to determine potential manufacturers and/or products containing inventive elements.	Traveled to various international locations to research and document appropriate data to support prior art evidence.
Formulated new products to reflect changing economic and technology environment and enable continued profitability.	Extracted key elements from claims and formulated key words and phrases to use in patent and non-patent literature searches.	Performed citation research and analysis to identify potential licensing targets and prior art.	Obtained first-hand experience reviewing a variety of case-related documents including patents, expert reports, witness depositions, technical evidence, declarations, and prosecution history.
Developed broad-based, real world knowledge of semiconductor processing and device structures by performing hands-on analysis of state-of-the art components to support competitive, infringement and prior art research.	Utilized data from patent review to formulate possible non-patented alternative keywords and phrases to obtain similar patented concepts, processes and structures.	Determined analytical support required to show evidence of claimed technical features and difficulty/ease in supporting patented claims.	Heard oral arguments and testimony at hearings, reviewed motions, and provided impartial analysis and decisions on discovery disputes, claim construction, validity, infringement, and contract interpretation.
Determined semiconductor device structures and manufacturing processes by analyzing SEM and TEM cross section images.	Utilized patent claim trees and other software tools to better understand key claimed concepts and relationships.	Participated in on-site training for USPTO East and West search databases in Alexandria, VA to enhance effectiveness of searches.	Located specific date code semiconductor and related products to support invalidity searches, and illustrating technical prior use evidence.