

**Attachment J-1**

**Resumes for Photo Review Analysts**



8 January 2004

Mr. Corey Bertelsen  
Casmalia Resources Steering Committee  
868 Greystone Place  
San Luis Obispo, CA 93401



Subject: Staff Resumes  
Casmalia Resources Superfund Site

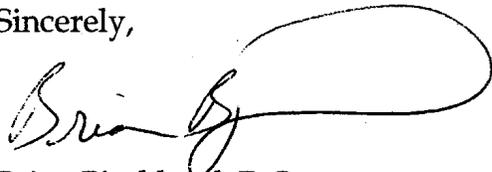
Dear Mr. Bertelsen:

Enclosed are resumes of selected Environmental Resources Management staff that supported the CSC on the review of aerial photographs of the Casmalia site. A summary of staff responsibilities on this project are described briefly below.

- Anne Perez – Reviewed aerial photographs, summarized observations and noted land use changes over time. Provided quality control reviews of basemap figures and aerial photo overlays.
- Don Ludlam – Provided AutoCad support for production of Appendix J figures and digital overlays.
- Brian Bjorklund, R.G., C.HG. – Reviewed photo interpretation summaries and provided overall quality control for several workplan figures associated with the aerial photography reviews.

ERM looks forward to providing continued environmental services to Casmalia Steering Committee. Please call me at (925) 946-0455 with any questions.

Sincerely,



Brian Bjorklund, R.G.  
Project Manager

BSB/bsb/5084  
enclosures: noted



# Anne E. Perez

Ms. Perez has 5 years of experience in the environmental consulting industry. Her experience encompasses ground water sampling and monitoring programs, and complex soil and ground water investigations. She has maintained drilling logs, participated in ground water monitoring well installation, conducted field observations, reviewed reports and environmental impact reports; and updated fault/liquefaction maps. Her experience includes conducting extensive historical aerial photo analysis and interpretation of faulted regions, glaciated terrains, Phase I sites, and Superfund sites.

Ms. Perez' responsibilities have included soil and ground water sampling; reporting analytical results to the appropriate governing agencies; evaluating site investigation data to address site remediation; natural attenuation sampling and evaluation; historical aerial photo analysis and interpretation; quality assurance and quality control; and regulatory compliance.

## **Fields of Competence**

- Soil and ground water investigations
- Soil and ground water sampling and analysis
- Monitoring well installation
- Aerial photo analysis and interpretation
- Drilling and coring logs
- Quality assurance and quality control
- Report preparation

## **Education**

- M.S., Geology, University of California at Riverside, 2003
- B.S., Geology, University of California at Riverside, 2000
- 40-Hour OSHA Hazardous Waste and Emergency Response certification, 2002
- Railroad Safety Training, 2002
- Refinery Safety Training, 2003

## **Professional Affiliations**

### **Honors and Awards**

UCR Earth Science Department Fellowship

### **Publications**

Owen, Lewis, Finkle, Robert, Minnich, Richard and Perez, Anne. "Extreme Southern Margin of Late Quaternary Glaciation in North America: Timing and Controls." Published in the Journal *Geology*.

## **Key Projects**

Prepared quarterly ground water monitoring report for Caltrans site investigation in Oakland, CA.

Assisted in ground water monitoring and reporting at San Francisco International Airport, Boarding Area E, using both peristaltic pump and hand bailer sampling technologies.

Assisted in ground water monitoring, reporting, and surveying at major airline's maintenance and operations center at San Francisco International Airport using the peristaltic pump, whale pump, and hand bailer sampling technologies.

Conducted an extensive aerial photo review (25 photo years) and prepared the historical written review for the Casmalia Superfund site; performed QA/QC for the data presented in figures, tables, and text.

Performed various tasks associated with a complex state Superfund site in Nevada. Duties included constructing geologic cross sections, checked all figures and data, assisted in report preparation and writing, collected soil and other geologic data, maintained extensive boring log appendices, and constructed ground water contour maps.

# Donald Ludlam

Mr. Ludlam has 12 years of CAD and Geographic Information Systems (GIS) experience. For the last 4 years he has focused on the environmental field managing the development of graphics and AutoCAD products for engineering drawings and environmental reports, as well as the budget, schedule, computer software, and quality assurance/quality control. Mr. Ludlam is well versed in piping and mechanical system design. He is skilled in preparing engineering drawings, technical specifications, operating procedures, and cost estimates.

Mr. Ludlam has supervised up to 15 drafters with the responsibility of completing a multi year CAD project on time and under budget. He integrated drafting procedures to lower overall cost while increasing productivity and quality assurance.

## Fields of Competence

- AutoCAD Release 14 and 2000
- AutoCAD Map 2000
- AutoCAD Land Development
- Intergraph Microstation
- Arcview
- Eagle Point Software
- Autolisp and C+ languages
- Database Design/Management
- Global Positioning Systems (GPS)
- Aerial Photogrametry
- Soil and Groundwater Sampling
- Solinst Well Installation

## Education

- OSHA 40-Hour Hazardous Waste Site Training, 2000
- OSHA 8-Hour Refresher, 2002
- Caltrain Advanced Track Safety Trained, 2002
- ESRI Arcview Development, 1993
- A.S., Computer Aided Design and Computer Science, IIT Technical Institute, 1991
- A.A., Business, IIT Technical Institute, 1990

## **Key Projects**

Developed construction drawings for Camp San Luis Obispo erosion and sediment control project. Including site plan, grading plan, sections, sediment control plan and details.

Developed graphics for UAL Flight 93 investigation project in Somerset County, PA. Including site plan, monitoring well location, soil sample and collection, and background data maps.

Developed graphics for ground water monitoring and soil investigation reports for United Airlines operations at San Francisco International Airport, CA. using AutoCAD. Included water level and water quality figures showing sampling location and posting of contaminant concentrations, conceptual site models, and overall site maps with aerial photograph bases.

Assisted with aspects of field operations at San Francisco International Airport, CA. Cleared boring locations, supervised drilling crew, installed multi-level wells, collected samples using three multi-port systems located historic fuel pits from aerial photos using GPS.

Oversaw hazardous soil excavation and off-site disposal of lead-impacted soil for BART extension project on behalf of Union Pacific Railroad in South San Francisco, CA.

Developed graphics for quarterly ground water monitoring and soil investigation reports for a Union Pacific Yard in Tucson, Arizona using AutoCAD. Included water level and water quality figures showing sampling location and posting of contaminant concentrations, conceptual site models, and overall site maps with aerial photograph bases.

Developed a GIS system and graphical interface for three Union Pacific Sites. Including basemap creation, GPS survey data input, database link for soil and water data and assessors parcel data to graphics. Software used: AutoCAD Map, Arcview, and Access.

Managed the development of City Wide GIS cadastral and infrastructure maps for use with AutoCAD and ArcInfo GIS engines.

Performed a site investigation, a remediation alternative assessment, a closure plan preparation, and bench-scale remediation testing for a waste oil recycling facility.

# Brian S. Bjorklund, R.G., C.H.G

Mr. Brian Bjorklund has 12 years of professional experience as a geologist and hydrogeologist involved in assessment and remediation of sites with soil and ground water contamination. His expertise includes management and technical oversight of Remedial Investigation/Feasibility Study (RI/FS) and remedial action plan projects; planning, conducting, and managing soil and ground water investigations at industrial and military facilities; designing and implementing soil and ground water remediation systems; providing potentially responsible party cost allocation evaluations and environmental litigation support; and providing regulatory interaction and negotiation advocacy on behalf of semiconductor, utility, petroleum distributor and railroad clients.

## **Registration**

- Registered Geologist, California (#6617)
- Certified Hydrogeologist, California (#531)

## **Fields of Competence**

- RI/FS programs
- Geologic and hydrogeologic site investigations
- Computer applications for hydrogeologic investigations
- Design and installation of ground water treatment systems
- Soil and ground water sampling techniques
- Ground water monitoring programs
- Construction oversight
- Aquifer testing
- Litigation support
- Regulatory compliance/agency negotiations
- Project management

## **Education**

- B.S., Geological Sciences, University of California, Santa Barbara, 1990
- 40-Hour OSHA Hazardous Waste Operations and Emergency Response, 1990
- Annual 8-Hour Hazardous Waste Operations Refresher Training

## **Professional Affiliations**

- National Ground Water Association

## Key Projects

Managed completion of remedial investigation for chlorinated solvent-impacted soil and ground water at former fiber drum manufacturing plant in Pittsburg, California, with identified release area immediately adjacent to deep agricultural water supply well. Performed extensive passive soil vapor survey to characterize known and suspected source areas, and completed multilevel ground water sampling using cone penetrometer equipment. Prepared removal action workplan for affected soils and on-site ground water investigation workplan to address deep ground water impacts. Also performed chemical oxidation pilot study and developed user-friendly, client-oriented GIS database for environmental chemistry and geologic data collected at site.

Managed site investigations at 22-acre Union Pacific Railroad property in Santa Barbara, California. Collected soil and ground water samples at suspected source areas based on historical records and aerial photographs. Site impacted by TPH, PAHs, and MTBE. Negotiated No Further Action closures for all parcels prior to sale of property.

Provided technical oversight for series of four long-term pumping tests at Equilon's Bakersfield, California, refinery. Conducted tests to aid design of planned ground water extraction system to capture MTBE plume threatening off-site receptors. Analyzed test data for hydraulic parameters and input test results into ground water model developed by Equilon's Westhollow Technology Center.

Managed hydrocarbon release project on Native American tribal lands in Tuba City, Arizona, where large MTBE ground water plume originated from gasoline station on Navajo Nation and extended downgradient onto Hopi land. Because of conflicts among tribal entities, USEPA acted as lead regulatory agency. Negotiated reduction in ground water monitoring requirements. Currently preparing Corrective Action Plan.

Prepared remedial investigation report for ground water TCE plume at Fresno Yosemite International Airport. Provided technical support for source investigations and downgradient plume delineation.

Developed ground water monitoring network to observe chemical and hydrologic influences of startup of municipal water supply within mixed chlorinated solvent plume in Fresno, California. Used data to calibrate ground water model of Fresno Yosemite International Airport area.

Planned and implemented effectiveness monitoring program for startup of ground water pump-and-treat remediation system at state Superfund site in Palo Alto, California. Performed aquifer testing and pumping influence studies in solvent-contaminated, multi-layer shallow aquifer. Prepared construction implementation and treatment system effectiveness report for approval by Department of Toxic Substances Control. Managed long-term operation, monitoring, and maintenance of extraction system.

Performed site characterization study at former PG&E manufactured gas plant bulk fuel facility in Eureka, California. Completed exploration trenches and GeoProbe borings to delineate impacts of Bunker-C fuel oil, SVOCs, and metals. Prepared removal action workplan to mitigate on-site contaminant releases.

Supervised removal of Bunker-C oil pipeline from within city street in Eureka, California. Removed 700 tons of Bunker-C oil-impacted soil and disposed of waste off site. Received Regional Water Quality Control Board approval of remedial action, which allowed city to complete roadway extension project.

Developed remedial action plan to address off-site ground water operable unit at FMC's site in Fresno, California. Prepared technical analysis of chromium, TCE, and pesticide plumes and determined allocation of responsibility for off-site remediation.

Managed investigative and remedial activities at several former automotive parts distribution facilities in Northern and Central California. Conducted site assessments, and provided oversight during remediation at fuel UST and hydraulic hoist. Prepared workplans, site characterization reports, and remediation reports. Assisted client with local and state regulatory agency negotiations.

Coordinated and prepared parcel evaluation summaries for Alameda (California) Naval Air Station during base realignment and closure process. Performed sampling data review and interpretation, conducted quality assurance reviews, and wrote technical report. Provided recommendations for further sampling prior to property transfers or leases.

Conducted remedial investigation at major Bay Area port facility. Collected surface soil and harbor sediment samples, installed monitoring wells, and conducted hydraulic testing. Completed tidal influence study to assess gradient fluctuations and to verify hydrogeologic boundaries.

Managed remediation construction of JP-5 product recovery system at Lemoore (California) Naval Air Station. Supervised system construction and performed startup, operation inspections, and maintenance.

Provided litigation support for microchip manufacturer in Sunnyvale, California. Prepared hydrogeologic analyses for co-mingled, multi-aquifer solvent plume. Reviewed and critiqued aquifer characterization data, remediation effectiveness, and capture zone analyses.



ENVIRONMENTAL RESEARCH, INC.

Environmental Imagery Analysis

January 2, 2004

Corey Bertelsen  
Project Coordinator  
Casmalia Resources Site Steering Committee  
868 Greystone Place  
San Luis Obispo, CA 93401

Re: Casmalia Disposal Site, Casmalia, California

Dear Mr. Bertelsen:

Per your request, the information provided herein identifies the Environmental Research, Inc. staff that completed work on the above referenced project and as listed in the reports below. I have attached resumes for each of the analysts listed.

Kenneth Giles and Glen Hickerson: Mr. Giles and Mr. Hickerson performed the aerial photograph analysis and quality control as outlined in the report dated April 2001 and titled *Aerial Photographic Analysis, Casmalia Disposal Site, Casmalia, CA.*

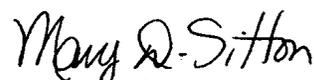
Kenneth Giles: Mr. Giles performed research and acquisition of aerial photography as outlined in the report dated March 2003 and titled *Aerial Photographic Acquisitions, Casmalia Disposal Site, Casmalia, CA.*

Glen Hickerson, Donley Kisner and Anthony Pruitt: Mr. Hickerson, Mr. Kisner and Mr. Pruitt performed aerial photographic analysis, photographic registration and quality control in the report dated May 2003 and titled *Aerial Photographic Analysis of the Burial Trench Area, P/S Landfill Barrier, and Pre-Site Drainage, Casmalia Disposal Site, Casmalia, CA.*

Kenneth Giles and Mary Sitton: Mr. Giles and Ms. Sitton performed the aerial photograph analysis and quality control as outlined in the report dated August 2003 and titled *Supplemental Aerial Photographic Analysis, Casmalia Disposal Site, Casmalia, CA.*

If you have any questions regarding this information, please give me a call 540-636-4460 or reach me via email at [mseri@shentel.net](mailto:mseri@shentel.net).

Regards,

  
Mary D. Sitton  
President  
Imagery Analyst, CMS

**MARY D. SITTON**  
**Curriculum Vitae**

**Environmental Research, Inc. 5267 John Marshall Hwy, Suite C Linden, VA 22642**  
**Phone: 540-636-4460 Fax: 540-636-2628 email: mseri@shentel.net**

**PROFESSIONAL EXPERIENCE**

*Environmental Research, Inc., Linden, VA July 1993 - present*

**President.** Providing remote sensing analyses for environmental investigations and natural resource mapping. Specialize in historical aerial analysis to support remedial investigations of hazardous waste sites and environmental assessments of military installations. Document historical industrial operations and disposal practices to support environmental litigation for a variety of government and private agencies. Oversee all aspects of the firm including marketing and proposal preparation, project and quality control, maintaining certifications and insurance, personnel, accounting and legal aspects.

*Self-Employed May 1990-July 1993*

**Independent Environmental Consultant.** Acquired and analyzed aerial photography to document site activity for the U.S. Department of Justice and law firms. Prepared attorney work products to support litigation and prepared for expert witness testimony as needed.

*The Bionetics Corporation, Warrenton, VA January 1983 - April 1993*

Held technical and managerial positions on two consecutive level-of-effort contracts with the EPA Environmental Photographic Interpretation Center (EPIC). Contract provided operational remote sensing, geographic information system (GIS) and photogrammetry support to EPA's research and regulatory programs for RCRA, CERCLA, SARA, Clean Water Act, Safe Drinking Act, and EMAP.

**Team Leader, Hazardous Waste Analysis 1987 - 1993.** The Team Leader position combined managerial and technical scientific duties to oversee all aspects of scientific work performed by the team; including staff training and research and development. Other duties included editing hazardous waste site analyses and other environmental assessment projects with respect to technical content; project control; prepared cost estimates and work plans; maintained liaison between the contract, EPA, and Department of Justice personnel. Also prepared standard operating procedures and prepared documents to be included in contract proposals. Authored over 60 EPA reports and edited numerous others from 1983 to 1993.

**Program Manager, Army Installation Assessment Program 1984-1993.** Managed a program established through an interagency agreement between EPA and the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA, currently referred to as the Army Environmental Center). Aerial photography was used to identify and assess areas of past use, storage treatment and disposal of hazardous and/or explosive materials on Army installations. Scheduled, tracked and reported on work flow and resource utilization. Trained and directed analysis staff. Led field visits to develop signatures of military activities and for field reconnaissance.

**Imagery Analyst 1983-1987.** Performed imagery and collateral data research to produce detailed site analyses and reports. Analyzed remotely sensed data including conventional color, color infrared, thermal infrared, and black and white vertical and panoramic aerial photography to detect and inventory potential pollution sources, to monitor the migration of pollutants (e.g., plumes, spills, releases). Projects included detailed land use/land cover mapping, point and non-point source inventories, and detailed analysis of landfills and other industrial waste handling and disposal practices.

Developed a cost effective method of locating abandoned oil and gas wells using historical aerial photography as part of a cooperative R&D program with EPA/Environmental Monitoring Systems Laboratory, USGS, National Well Water Association and the Environmental Groundwater Institute at the University of Oklahoma. Work is cited in the ASPRS Manual of Photographic Interpretation, Second Edition, 1997.

## EDUCATION

Radford University Radford, Virginia - Bachelor of Science Degrees  
Geology and Business Management - 1982, 1980

## PROFESSIONAL AFFILIATIONS/CERTIFICATIONS

American Society for Photogrammetry and Remote Sensing (ASPRS)

ASPRS Certified Mapping Scientist - #RS120

American Society for Testing and Materials

American Academy of Forensic Scientists

### **AWARDS AND LETTERS OF COMMENDATION**

Received letter of commendation from Foster Wheeler Environmental for aerial analysis and GIS work performed on Nomans Land Island, MA in support of the US Navy – Naval Facilities Engineering Command, October 2002.

Received letter of appreciation from Department of Army, U.S. Topographic Engineering Center, for providing guidance to a team of Army scientists regarding remote sensing techniques used in environmental monitoring, January 1995.

Received Commendation and Award of Contractor Performance from the U.S. EPA Environmental Photographic Interpretation Center for work completed under the Hazard Ranking System project, October 1989.

Received letter of appreciation from the Department of Army for outstanding overhead imagery support provided during 1986.

### **PROFESSIONAL PAPERS, SEMINARS, REPORTS**

Sitton, M.D., Hickerson, G.H, McKenzie, M.L., 2001. "Aerial Photography Provides an Unbiased View in Environmental Site Investigations". Abstract in Proceedings of the American Academy of Forensic Sciences 53<sup>rd</sup> Annual Meeting, February 19-24, 2001 Seattle, WA.

Sitton, M.D. February 1999. "Who? Did What? When? Historical Aerial Photographic Analysis Supports Cost Recovery Litigation and Remediation". Abstract in Proceedings of the American Academy of Forensic Sciences 51<sup>st</sup> Annual Meeting, February 15-20, 1999 Orlando, FL.

Sitton, M.D. and Hickerson, G.H. February 1998. "Remote Sensing: An Essential Tool for Environmental Site Investigations". Abstract and presentation at 50<sup>th</sup> Annual Meeting of the American Academy of Forensic Scientists, February 10, 1998, San Francisco, CA

Sitton, M.D. September 1997. "Historical Aerial Photographic Assessment Assists BRAC Cleanup Team at Fort Pickett". *Environmental Bulletin, A Quarterly Environmental Newsletter*, Norfolk District, U.S. Army Corps of Engineers, Vol. 2, Issue 3, September 1997, p. 1

Presented seminar "Remote Sensing: An Essential Tool for Environmental Site Investigations" at the Florida Environmental Chemistry Conference, December 2-6, 1997

Baer, W.L. and M. D. Sitton, 1984. "Incorporation of Hydrogeologic Data into United States Environmental Protection Agency/Environmental Photographic Interpretation Center Investigations". Proceedings of the National Water Well Association, Ground Water Technology Division, Eastern Regional Ground Water Conference, Newton, Massachusetts.

**MARY D. SITTON Page 4**

Baer, W. L. and M. D. Sitton. 1984. "Graphically Integrating Aerial Photography and Hydrogeologic Data in Evaluating Groundwater Pollution Sources: Southington, Connecticut", Hazardous Wastes and Environmental Emergencies, Houston, Texas.

Stout, K. K. and M. D. Sitton. 1984. "Locating Abandoned Oil and Gas Wells with Historical Aerial Photos". Proceedings of the First National Conference on Abandoned Wells; Problems and Solutions, Norman, Oklahoma, May 1984.

Attended and presented paper entitled "Uses of Aerial Photographic Analysis When Developing a Wellhead Protection Program" at EPA's Wellhead Protection Delineation Program conference, December 1988, New Orleans, Louisiana.

Completed EPA's Wellhead Protection Area Delineation Course, August 1988, Fairfax, Virginia.

Completed Revised Hazard Ranking System Training Course, November 1988, Mitre Corporation, Vienna, Virginia.

Completed the Geographic Information Systems and Remote Sensing Course, March 1986, National Space Technology Laboratories, Mississippi.

Completed "The Hydrologic Significance of Fracture Trace and Lineament Related Structures" course at the Pennsylvania State University by Richard Parizek and D. P. Gold, March 1986. Completed Terrain Analysis Course by Robert Frost, May 1984, Warrenton, Virginia

**EXPERT WITNESS/PRIOR TESTIMONY**

*Provided expert testimony for the following:*

Burlington Northern Railroad Co. v. Allianz Ins. Co., et al., November 30, 1994

Loren S. Riggins, Jr. et al. v. Domanic & Rosa Connena, Superior Court of New Jersey, Law Division - Gloucester County, October 2, 1995

CSX Transportation, Inc. v. Admiral Insurance Company, U.S. District Court for the Middle District of Florida, Jacksonville District, November 8, 1995

Commercial Union Insurance Co. et al. v. Cannelton Industries, September 16, 1996

Wausau v. McGraw-Edison Co., Circuit Court, Dupage Co., IL, October 22, 1997

Allstate Insurance Co., et al. v. Sta-Rite Industries, et al. State of Wisconsin: Circuit Court: Milwaukee County, April 28 and 29, 1998

American Cyanamid Co. v. Aetna Casualty & Surety Co. Superior Court of New Jersey, Law Division, Passaic County, November 2, 1998

TRW Inc. v. Underwriters at Lloyd's of London, et al. Court of Common Pleas, Trial Division, Philadelphia County, PA, January 28, 1999

Hoechst Celanese Corp. v. Aetna Casualty & Surety Co. Baltimore City Circuit Court, January 14, 2000

McCandless Fuels, Inc. v. Progressive Fuel Oil Co., Inc., Superior Court of New Jersey, Chancery Division, Gloucester County, February 19, 2001

DuPont v. United States, United States District Court, District of New Jersey, May 1-2, 2001

Santa Maria Enterprises, Inc., B.H. and Ebba Richards Family Trust and Richards Holding Company vs. Texaco Exploration and Production, Inc.; Cirrus Environmental, Inc.; Buena Resources, Inc.; RMR, Inc.; Unocal, and Does 2-1000, Superior Court of California for the County of Santa Barbara, Deposition: October 17, 2001. Trial: February 6, 2002.

United States of America v. Pharmacia Corporation, et al.; Pharmacia Corporation and Solutia Inc. v. United States of America, et al., Civil Action No. 99-63-DRH (Southern District of Illinois), Deposition: November 11-12, 2002. Trial: November 4 and 6, 2003.

American Home Products Corporation v. Adriatic Insurance Company, et al., Docket No. HUD-L-5002-92, Superior Court of New Jersey, Hudson County, May 6, 2003.

**GLEN M. HICKERSON**  
**Environmental Research Incorporated**  
**5267 John Marshall Highway, Suite C**  
**Linden, Virginia 22642**  
**540-636-4460**  
**Curriculum Vitae**

## **PROFESSIONAL EXPERIENCE**

**July 1993 - Present:**                      **Environmental Research, Inc.**  
**Linden, VA**  
**Vice-President**

Mr. Hickerson is Vice President of ERI managing the Environmental Site Assessments Section and administering Quality Control procedures. Responsibilities include project planning, management, and implementation of remote sensing analyses for environmental investigations and natural and cultural resources mapping. He has performed numerous historical aerial photographic analyses documenting environmental conditions and operations of industrial facilities for the U. S. Army Environmental Center, the Department of Justice, the U.S. Corps of Engineers, the U.S. Environmental Protection Agency, various state agencies, and engineering and law firms. Mr. Hickerson has experience in the use of the Cowardin, et al., Classification System for Identifying Wetlands and Deepwater Habitats.

**April 1993 - September 1993:**        **U. S. Department of Justice, Washington, D.C.**  
**Natural Resources Division**  
**Environmental Enforcement Section**  
**Independent Environmental Consultant**

As an independent consultant to DOJ, Mr. Hickerson performed aerial photographic research, acquisition and analysis documenting environmental conditions and operations of industrial facilities. These projects supported cost recovery litigation.

**January 1991 - March 1993:**        **Bionetics Corporation, Warrenton, VA**  
**September 1983 - March 1987:**    **Imagery Analyst/Geologist**

As an on-site contractor to the U. S. Environmental Protection Agency at EPA's Environmental Photographic Interpretation Center (EPIC), Mr. Hickerson performed research, acquisition, and analysis of aerial photography and available site related data to document environmental conditions and operations of industrial facilities to support EPA's research and regulatory programs for RCRA, CERCLA, SARA, the Clean Water Act, and the Safe drinking Water Act.

## **PROFESSIONAL EXPERIENCE (Continued)**

During his time at EPIC, Mr. Hickerson performed numerous detailed site analyses, land use/land cover mapping projects, various research projects, and project management. Mr. Hickerson performed quality control and editing for technical content on aerial photographic site analyses and mapping projects. While at EPIC, Mr. Hickerson was involved in refining the technique for utilizing aerial photography to identify lineament and fractures to determine groundwater flow influences. Mr. Hickerson completed analyses utilizing aerial photography and imagery to identify crops, submerged aquatic vegetation, and to detect springs and ground water seeps. Mr. Hickerson managed EPIC's "Blow Box" monitoring program to identify illegal brine discharges from natural gas wells in Pennsylvania. He performed land use/land cover analyses using Anderson, et al, classification system, including point and non-point pollution source inventories. He operated a Trimble Pathfinder Global Positioning Satellite (GPS) system to obtain feature locations and the geographical referencing coordinates, and operated and maintained the EPA Enviropod aerial photographic camera system. Authored over thirty-five EPA Aerial Photographic Analysis reports and edited numerous others from 1983 to 1987 and 1991 to 1993.

## **EXPERT WITNESS TESTIMONY**

Provided expert witness testimony for the following cases:

American Cyanamid Company and Cyro Industries, v. Aetna Casualty and Surety, Superior Court of New Jersey Law Division: Passaic County Docket Number I-8275-91, Deposition Testimony October 3, 1998.

TRW v. Underwriters at Lloyds of London, et al., Philadelphia County Court of Common Pleas, Trial Division Case Number 1088, Deposition Testimony January 21, 1999.

Niagara Mohawk Power Corporation v. Consolidated Rail Corporation, U.S. District Court, Northern District of New York, Case Number 98 CIV. 1039 (DNH/GJD), Deposition Testimony July 12, 2001.

United Technologies Corp. et al. v. American Home Assurance Company, U.S. District Court for the District of Connecticut, Case Number 92-CV-00267 (JBA) Deposition Testimony September 26, 27, and November 7, 2001.

Olin Corporation v. Insurance Company of North America, et al., U.S. District Court, Southern District of New York, Case Number 84 CIV. 1968(TPG), Deposition Testimony March 22, 2002, Trial Testimony April 16, 2002.

## **EXPERT WITNESS TESTIMONY (continued)**

General Electric as successor-in-interest to Radio Corporation of America v. Certain Underwriters at Lloyds, London, et al., Superior Court of New Jersey Law Division, Mercer County, Case Number L-88-6432, Deposition Testimony July 12, 2002

## **EDUCATION**

Radford University, Radford, VA  
Bachelor of Science in Geology, 1982  
Coursework: Geology, Business Finance and Management

## **PROFESSIONAL AFFILIATIONS**

American Society for Photogrammetry

## **PROFESSIONAL REPORTS, PAPERS, AND SEMINARS**

Mary D. Sitton, BS, CMS\*, Glen M. Hickerson, BS and Morris McKenzie, BA, February 2001. "Aerial Photography Provides an Unbiased View in Environmental Site Investigations" (abstract and presentation) in Proceedings of the American Academy of Forensic Scientists Meeting, Seattle, Washington.

Sitton, M.D., G.M. Hickerson. February 1998. "Remote Sensing: An Essential Tool for Environmental Site Investigations" (abstract and presentation) in Proceedings of the American Academy of Forensic Scientists Meeting, San Francisco, CA.

Authored over 35 Aerial Photographic Site Analyses for the U.S. Environmental Protection Agency's Environmental Photographic Interpretation Center (EPA/EPIC), Warrenton, VA.

Authored over 15 Aerial Photographic Site Analyses for the U.S. Environmental Protection Agency's Characterization Research Division, Monitoring Sciences Branch, Las Vegas, NV.

Authored over 15 Aerial Photographic Site Analyses for the Pennsylvania Department of Environmental Protection, Bureau of Land Recycling & Waste Management, Harrisburg, PA.

Authored 2 Aerial Photographic Site Analyses for the U.S. Corps of Engineers, CA and FL.

## **PROFESSIONAL REPORTS, PAPERS, AND SEMINARS (continued)**

Authored 2 Aerial Photographic Site Analyses for the U.S. Army Environmental Center, Aberdeen, MD.

Authored over 25 Aerial Photographic Site Analyses for a variety of clients to support litigation.

Provided technical quality control review for approximately 150 additional Aerial Photographic Site Analyses.

Introduction to AutoCAD 12, Lord Fairfax Community College, 1997.

Introduction to ArcView II, Community College of Southern Nevada, 1996.

The "Hydrologic Significance of Fracture Trace and Lineament Related Structures" course conducted at the Pennsylvania State University by Richard Parizek and D. P. Gold, March, 1986.

Terrain Analysis Course conducted by Robert Frost, May, 1984, Warrenton, VA.



**PROFESSIONAL EXPERIENCE (Continued)**

**August, 1989 - April, 1993:                    Bionetics Corporation, Warrenton, VA  
Imagery Analyst**

Mr. Kisner provided a broad range of aerial photography based analyses, including the identification of Upland/Wetland boundaries, detailed wetland identification using the Cowardin, et al, Classification System for Wetlands and Deepwater Habitats, and other land cover and land use analyses using the Anderson Classification System and the Brown and Lowe classification system for Biotics Communities of the Southwestern United States.

For EPA's EMAP Program, Mr. Kisner developed Land Use and Land Cover classification systems, followed up by managing projects performed to evaluate these systems. He acted as liaison between EPA and EMAP's Agroecosystem Resource Group. Mr. Kisner participated in the organization of the EPA/USGS's co-sponsored forum on Land Use and Land Cover Classification, and was a participant in several peer reviews and workshops with EMAP Resource Groups.

**May, 1984 - July, 1989:                    Martel Laboratories, St. Petersburg, FL  
Photo Interpreter/Status and Trends Manager**

Mr. Kisner was responsible for performing wetland interpretation from aerial photography for the U. S. Fish and Wildlife Service's National Wetland Inventory. He conducted intensive field work throughout the U. S. for the purpose of correlating aerial photographic signatures with on-site investigation of wetland hydrology and botanical ecology. Mr. Kisner prepared technical reports, maintained budgeting schedules, trained new personnel, and maintained professional client/contractor relationships.

As a result of gained expertise, Mr. Kisner performed quality control of wetland interpretations at the regional offices of the National Wetlands Inventory located in Atlanta, Georgia and Denver, Colorado. In addition, Mr. Kisner managed the Fish and Wildlife Services Status and Trends Project, which consisted of a team of five photo interpreters and four cartographic and computer technicians.

## **TRAINING**

Federal Manual for Identifying and Delineating Jurisdiction Wetlands  
Wetland Training Institute, Poolesville, MD

Expert in use of the Cowardin, et al, classification system for Identifying Wetlands and Deepwater Habitats and the Anderson et al Classification System for Land Use and Land Cover.

USGS Topographic Map Update Training  
Rolla, Missouri and Fairfax, Virginia

Training related to USGS specifications for updating maps with specific emphasis on the Raster Graphic Revision Process (RGR) used for performing Basic Graphic Revisions

## **EDUCATION**

University of South Florida, Tampa, FL  
Bachelor Degree in Geography, 1984

Fairmont State College, Fairmont, WV  
June, 1974 - December, 1978

Undergraduate coursework concentrated on physical geography, cartography, and aerial photography interpretation. Graduate coursework included soils and wetland plant identification.

## **PROFESSIONAL AFFILIATIONS**

Society of Wetlands Scientists

Arizona Riparian Council

American Society for Photogrammetry and Remote Sensing

**KENNETH W. GILES**  
**IMAGERY ANALYST / ACQUISITION MANAGER**

Kenneth Giles has seven years experience in the stereoscopic interpretation of aerial photography for environmental assessments and natural resource identification and mapping. He has completed numerous historical aerial photographic analyses documenting environmental conditions and operations of industrial facilities for government and private agencies. Mr. Giles is also in charge of research, documentation, and acquisition of historical aerial photography for Environmental Research, Inc.

**PROFESSIONAL EXPERIENCE**

**September 1996 - Present:                    Environmental Research, Inc. Linden, VA**  
**Image Analyst/Acquisitions Manager**

Primary responsibilities include:

- analyzing aerial photographs to document hazardous waste site activity and change
- the research and acquisition of current and historical aerial photography
- assisting with the graphic production of final reports; requiring knowledge of Adobe Illustrator software and graphic file conversion
- Geo-referencing historical aerial photography and digitizing analysis findings to create GIS project files.

Other experience includes:

- field checking wetland delineations originally determined from analysis of aerial photography using the Cowardin et al., Classification System for Identifying Wetlands and Deepwater Habitats
- conducting inventories using aerial photography to map point and non-point pollution sources
- use of the Anderson et al., Classification System for delineating land use ( Level I & II )
- use of the Stereo Zoom Transfer Scope (ZTS) to transfer features of varying scales from one map or photo to another

**EDUCATION**

Virginia Polytechnic Institute and State University, Blacksburg, VA  
Bachelor of Science, Environmental Resource Management  
School of Forestry and Wildlife, September 1996

**PROFESSIONAL AFFILIATIONS**

American Society of Photogrammetry and Remote Sensing (ASPRS)

Society of Wetland Scientists

**ANTHONY G. PRUITT**  
**GIS / COMPUTER SYSTEMS MANAGER**

Anthony Pruitt is Environmental Research Inc's. GIS/Computer Systems Manager. For the past eight years Mr. Pruitt has been responsible for ERI's network administration as well as software/hardware research, acquisitions, and training. Prior to joining ERI, Mr. Pruitt had nineteen years experience in commercial printing, and manual and computer graphic arts. GIS/Graphic software experience with ERI includes Autocad Release 12, ArcView 3.0-3.2, ArcGIS 8.2, ERDAS Imagine 8.5, ERDAS Imagine Orthobase, MicroStation SE, IRASB, IRASC, Adobe Illustrator 8, Adobe Photoshop 5, Corel Draw 10, Corel Photopaint, along with various scanning softwares. Mr. Pruitt is an experienced GIS analyst who is knowledgeable in GIS development and production.

**PROFESSIONAL EXPERIENCE**

**September 1994 - Present:** **Environmental Research, Inc. Linden, VA**  
**GIS Specialist & Computer Systems Manager**

Primary responsibilities include network administration, GIS production and development, production of cartographic materials for reports and presentations, and software training. Production responsibilities include digital acquisitions, scanning, digitizing, data conversion, georeferencing, mosaicing and quality control of GIS projects. Mr. Pruitt is also responsible for researching and acquiring computer hardware and software appropriate to accommodate ERI's expanding digital services.

**September 1989 - September 1994: Communications Corp. of America Boston, Va**  
**Multicolor Web Press Operator**

While at CCA, Mr. Pruitt gained experience in operating the Web Press (Stevens MS 6-Color), the Sheet Fed Press (Miehle 19x25 2-color) and in finishing using kluge foil stamping and labelaire.

**November 1975 - August 1989:** **Better Business Forms, Pinellas Park, FL**  
**Multicolor Web Press Operator**

While at Better Business Forms, Mr. Pruitt had two years experience as a Production Supervisor on a team of twelve press and collator operators. Press experience includes: Harris, Schriber, Ashton, Hamilton multicolor presses and the Speedflex press. Press Operations knowledge includes: wet and dry offset, drum folder, roll to fold, file and linehole punching, Fordyce Folders, roll to roll, perfining, and using magnetic, OCR, and densensitizing inks. General bindery experience includes: hot glue padder, saddle stitcher, drill press and Auto Step Paper Cutter.

**COMPUTER EXPERIENCE**

**Geographic Information Systems**

- ArcView 3.0-3.2
- ArcGIS 8.2
- ERDAS Imagine 8.5
- ERDAS Imagine OrthoBase
- MicroStation SE
- Autocad Release 12
- Trimble GPS Asset Surveyor

**Graphic & Image Processing Software**

- Adobe Illustrator
- Adobe Photoshop
- Corel Draw 7
- Corel Photopaint
- Microsoft Access 2000
- Microsoft Excel 2000
- Powerpoint
- Word Perfect 7
- Word

**Operating Systems**

- Windows 3.1
- Windows 95
- Windows 98
- Windows NT Workstation
- Windows NT Server
- Windows 2000
- Windows XP
- DOS

**SPECIFIC COMPUTER EDUCATION**

- DOS Operating Systems
- Windows Operating Systems
- Microcomputer Troubleshooting
- Microsoft Access 2000
- Microsoft Excel 2000
- Introduction to ArcView 3.0
- ArcGIS 8.1
- Desktop Mapping with ERDAS Orthobase
- Trimble GPS Mapping with Asset Surveyor
- Computer Aided Drafting
- Administration of Local Area Networks

**EDUCATION**

Dixie Hollins, St. Petersburg, FL, 1975

Graphic Arts (offset and letterpress operations, composition, and bindery)

**Attachment J-2**

**ERI Letter Regarding Photoregistration**





January 2, 2004

Corey Bertelsen  
Project Coordinator  
Casmalia Resources Site Steering Committee  
868 Greystone Place  
San Luis Obispo, CA 93401

RE: Casmalia Disposal Site, Casmalia, California

Dear Mr. Bertelsen:

Per your request, the information provided herein discusses the photographic registration that was performed on historical aerial photographs for discrete portions of the Casmalia site, and identifies limitations of the aerial photographic registration of the Casmalia site as a whole.

In addition, a discussion is provided of the zoom transfer process utilized to extract selected features (terraces, ponds, impoundments located in RCRA Canyon, and staining and the portable fuel tanks in the Maintenance Shed Area).

**Registration of Historical Aerial Photographs for Discrete Portions of the Casmalia site.**

Photographic registration is the process of aligning a digital photographic image to another digital photographic image and/or digital map image. Environmental Research, Inc. (ERI) used specialized software to align the discrete portions of the Casmalia site, specifically, the Burial Trench Area and the Pesticide/Solvent (P/S) Landfill Barrier. Common features were selected as ground control points for registering these discrete portions of the Casmalia site to one another for eight dates of digital aerial photographs spanning the time frame from 1974 to 1981, and two digital base maps (Figures 4-1 and 4-2).

Accuracies associated with this process varied due to inherent aerial photographic characteristics such as photographic parallax, scale, and resolution, as well as changes in

surface features from one image to the other image. Accuracies specific to this analysis were digitally measured directly between the registered digital aerial photographs and the digital base map images and found to be in the 6-12 foot range with one exception being the 1978 photograph, which the accuracy was measured to be in the 12-20 foot range. Specific common features that were used in the process of the photographic registration in the Burial Trench Area and the P/S Landfill Barrier from July 18, 1979 to December 16, 1981 were vertical tank(s) in the northern portion of the site, drainage features, the Maintenance Shed located between the Burial Trench Area and the P/S Landfill Barrier, and wellheads (visible from July 18, 1979 to December 16, 1981). Accuracy of the photographic registration was measured at the various ground control points that were common between digital aerial photograph images and digital map base images.

The accuracies stated are in relation to the features visible from the aerial photographs to the features visible on the base map and do not reflect the accuracy of the base maps used.

#### **Limitations of Photographic Registration of the Casmalia site as a Whole.**

Attempts were made early in the photographic registration process to register the entire Casmalia site. Due to lack of a sufficient number of common ground control points with appropriate spacing at the Casmalia site it was not possible to obtain registered data suitable for accurate placement of features from one image to another. The unacceptable level of accuracy was determined through visual comparison of the digital images utilizing specific software features designed for such task. This comparison revealed displacement across the image ranging from tens to hundreds of feet between features depending on where the displacement was measured. Major factors contributing to inaccuracy of registration for the entire site was the lack of sufficient ground control, the degree of relief of the topography, and the significant and rapid change in the surface of the Casmalia site due to onsite operations.

## Zoom Transfer Process Utilized to Extract Selected Features

CB Consulting, Inc. requested that ERI provide “approximate locations of selected features” that had been identified at the Casmalia site during the stereoscopic analysis of the aerial photograph film positives. To accomplish this task, ERI utilized a stereo zoom transfer scope (ZTS) to overlay aerial photograph prints to hard copy Figure 4-1 maps that were generated and supplied by others.

Selected features were transferred from Spreading Area Five and Six located in the RCRA Canyon (five terraces containing impoundments or areas of liquid and staining) were transferred from 10/6/83 and 7/6/84 aerial photographs to the Figure 4-1 map base. From the 7/6/84 aerial photographs additional select features were transferred from Spreading Area Six (WCCB Pond and impoundment) to the Figure 4-1 map base.

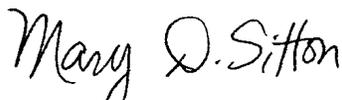
Selected features (staining and the portable fuel tanks) were also transferred from the Maintenance Shed Area from aerial photographs onto the Figure 4-1 and Figure 4-4 map bases.

The accuracy assessment of the ZTS method is accomplished by conducting a visual quality control of the alignment and transfer process by a senior analyst to ensure proper adjustment of the scope and transfer of features from the aerial photographs to the base maps.

The ZTS is a cost-effective method to extract hard copy spatial information. The spatial alignment of images using the ZTS is not based on the selection of ground control points but rather is based on magnified, optical alignment of the scenes (field of view within the scope) of two hard copy images through image elongation, compression, and rotation adjustments.

If you have any questions regarding this information, please give me a call or reach me via email at [mseri@shentel.net](mailto:mseri@shentel.net).

Regards,



Mary D. Sitton

*President*

*Imagery Analyst, CMS*

