

## Resource Technologies Corporation

[www.resourcetec.com](http://www.resourcetec.com)

- **Coal Processing Plant, Coal Tipple, Rail and River Load-out** - Client: Private Financial Organization
- **All Mineral Properties, Centre County, Pennsylvania** - Client: Centre County Board of Assessment
- **Sand, Gravel, and Dolomite Operation, Tampa, Florida** - Client: Barclays Business Credit
- **All Mineral Properties, Greene County, Pennsylvania** - Client: Greene County Board of Assessment
- **Sand and Gravel Operation, Northern Tier Pennsylvania** - Client: First Bank
- **Sand and Gravel Operation, Atlantic County, New Jersey** - Client: Atlantic Counties Utilities Authority
- **Silverbrook Anthracite, Coal, Culm, and Land Resources** - Client: Bank of Seoul, Korea
- **Consolidated Coal, Greene County Coal Properties** - Client: Greene County, Pennsylvania
- **Consolidated Coal/Monongahela Railway Rail Spur** - Client: Tarasi and Johnson, PC
- **Uranium Mine Tailings Depository** - Client: U.S. Corps of Engineers
- **Coal Reprocessing Facility** - Client: Pressed Steel, Inc.
- **Coal Processing and Shipping Facility** - Client: Hook and Hook, PC
- **Coal, Oil, and Gas Reserves and Operations, Stonewall Jackson Lake West Virginia** - Client: U.S. Army Corps of Engineers

### ADDITIONAL EXPERIENCE

Technical Advisor, Participant: National Conference on U.S. Coal Reserves, U.S. Department of Energy. Provide input concerning criteria to determine U.S. coal reserves, volumes, and value.

Technical Advisor, Senior Economics Analyst: "Defining the Anthracite Resources" for the U.S. Department of Energy. Economic analysis focused on the national and world coal market to the year 2010 as well as the local economic, regulatory, labor, and transportation situation.

Principal Investigator: "Concepts for the Protection Against Catastrophic Events" for the U.S. Department of the Interior. Project involved extensive interviews, literature searches, and analyses concerning various legal, financial, and other instruments potentially available to avoid, mitigate, or abate problems that are associated with the long-term effects of mining. Instruments evaluated included bonding, local planning options, insurance programs, surety arrangements, regulatory programs, legal restrictions and covenants, and disaster assistance programs. Both a policy and economic analysis were included in the report.

Principal Investigator: Development and publication of a self-instructional aerial photographic and inspection handbook for federal, state, local, and private environmental personnel. The 150+ page textbook includes numerous "hands-on" learning exercises and case studies.

### OTHER BUSINESS INTERESTS

Owner, CEO: Talleyrand Inpatient Rehabilitation Facility - 1983 - 1987

Director of Business Development: Central Pennsylvania, National Medical Enterprises, Rehabilitation Hospital Services Corporation - 1988

Owner, President of E.A.P. Design, Inc.: Employee Assistance Program provider to major Pennsylvania Businesses - 1987 - 1993

## **SELECTED PUBLICATIONS AND REPORTS**

- 1999, (Torries, T.F.), **Use of Geographic Information Systems Technology to Value for Ad Valorem Tax Purposes Coal Reserves Deposit**, Society of Mining Engineers, Denver, Colorado
- 1998, (Torries, T.F.), **Use of Geographic Information Systems Technology to Evaluate Large Mineral Deposit**, Minerals Economics and Management Society, Calgary, Canada
- 1989, (Stingelin, R.W.) "**Analysis of Coal Tipple And Loadout Needs Along the Monongahela River From Milepost 60 Below the Maxwell Lock And Dam to Milepost 100 Above Lock And Dam Number 8**"; Contract DACW69-89-D-0012-0001, U.S. Army Corps of Engineers, Huntington District, Huntington, West Virginia.
- 1984, (Stingelin, R.W., McGrory, B.J.) "**Defining the Anthracite Resources of Northeastern Pennsylvania**", Contract J0333932, U.S. Bureau of Mines, Pittsburgh Mining Research Center, Resource Technologies Corporation Final Report 1003-F.
- 1983, (Evans, B.M., Stingelin, R.W.), "**Low Altitude Photointerpretation Manual for Surface Coal Mining Operations**", U.S. Geological Survey, U.S. Office of Surface Mining.
- 1981, (Kern, J. R., et. al.) "**Concepts for Protection Against Catastrophic Events Resulting from Coal Mining**", Contract J5101061, Office of Surface Mining, U.S. Dept. of the Interior, Washington, D.C., Resource Technologies Corporation Final Report 1004-F.
- 1981, "**Semi-Automated Land Cover Change Detection from Sequential Aerial Imagery as a Resource Planning Tool**", M.R.P. Dissertation, The Pennsylvania State University.
- 1980, (Kern, J.R., et. al.) "**SWMIS - Solid Waste Management Information System - Specifications**", Contract ME79640, The Pennsylvania Department of Environmental Resources, U.S. Environmental Protection Agency.
- 1979, (Stingelin, R.W., et. al.) "**Premining Identification of Hazards Associated with Coal Mine Roof Measures**", Contract J0177038, U.S. Bureau of Mines, Pittsburgh, Pennsylvania, HRB Singer, Inc. Final Report 516-F.
- 1979, (Armstrong, R. M., Kern, J.R., et. al.) "**SUMIS - Surface and Underground Mine Management Information System - Specifications**", Contract ME78766, The Pennsylvania Department of Environmental Resources, U.S. Office of Surface Mining.
- 1978, (Kern, J. R., et. al.) "**Evaluation of Color Infrared Aerial Photography Data for Regional Wildlife and Land Use Inventory and Analysis**", Contract 14-14-0008-2161, U.S. Fish and Wildlife Service, Fort Collins, Colorado.
- 1978, (Stingelin, R.W. and Kern, J.R.) "**Impact of Coal Gasification and Mine Degasification on Appalachian Coal Production**", Battelle Columbus Laboratories.
- 1979, (HRB Singer, Inc.) "**Digital Mapping for Waterways Monitoring and Surveillance**", Contract DACW59-78-C-0113, U.S. Army Corps of Engineers, Cincinnati, Ohio.
- 1977, (Stingelin, R.W., et. al.) "**A Bibliography of Appalachian Coal Resources and Reserves**", Battelle Columbus Laboratories.
- 1976, (Stingelin, R.W., et. al) "**The Impact of Overmining and Undermining on the Eastern Underground Coal Reserve Base**", Contract J0357129, U.S. Bureau of Mines, Pittsburgh, Pennsylvania, HRB Singer, Inc. Final Report 500302-F.

**David Falkenstern, MS**  
**Gis Programmer**

## **EDUCATION**

Master of Science (2000) Environmental and Engineering Geosciences, Radford University, Radford VA.

Bachelor of Science (1997) Geosciences, Hydrogeology Option, The Pennsylvania State University, University Park PA.

## **EXPERIENCE**

**Resource Technologies Corporation**, September 2000 - Present

Mr. Falkenstern is responsible for bridging spatially oriented data with power computer models to produce the framework to make sound environmental, economical, and planning decisions. Recent projects include:

**County Mineral Taxes**, Managed the valuation of mineral properties in Greene and Fayette Counties for tax purpose.

**West Virginia Reserve Coal Valuation Model**, *West Virginia Department of Tax & Revenue* - Assigns tax value based on coal seams, coal quality, and mining consistency and economics.

**Mountain Top Removal Project**, *U.S. Environmental Protection Agency* - Estimated minable coal resources remaining in West Virginia when changing environmental scenarios for Phase I of Mountain Top Removal Environmental Analysis. Considered Mountain Top Removal/Mining, Contour Mining, Auger Mining and Deep Mining.

**Implementation of VISION Tax Assessment Software**, *County of Greene, PA* - Maintain Oracle and Access databases capable of linking to MapInfo for spatial analysis of data.

## **PREVIOUS EXPERIENCE**

Programmer, Radford University Technology Assistance Center (2000) – Coordinated the distribution of new computers to faculty and staff. Responsible for the installation of operating systems, various software programs, additional hardware, and associated drivers on computers.

Computer Lab Manager, Radford University Academic Computing (2000) – Responsible for the daily operation of five general-use computer labs. Served as the Walker Technology Center Webmaster ([www.runet.edu/~walkertc](http://www.runet.edu/~walkertc)). Taught classes on Microsoft Office 2000 and Internet applications. Resolved problems involving computers, printers, scanners and multimedia equipment and managed 40 undergraduate student workers.

Geology Intern, Dupont White Pigments, Engebo, Norway (1997) – Logged core to determine if rutile eclogites is an economical source of titanium. Produced geologic cross sections to help determine future drilling sites. Developed a database to store drilling data using Microsoft Access.

## **Resource Technologies Corporation**

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LAN Engineer Assistant, Penn State Office of Telecommunications University Park, PA (1992 - 1994) - Installed latest hardware upgrades in office computers. Maintained over 100 computers and printers. Performed tape back-ups for office servers.

### **COMPUTER SKILLS**

Languages and Software - Microsoft Office 2000, ArcInfo, ArcView, HTML, Perl, C, Microsoft FrontPage 2000, Imagine, RockPac, Adobe Photoshop, MapInfo, Corel.

Operating Systems - Windows NT, 95, 98, Macintosh, UNIX.

### **HONORS AND ACTIVITIES**

Member, Association of Engineering Geologists (1997 - Present)

Recipient, Radford University Graduate Grant (1997 - 1999)

Recipient, Ronald A. Landon Endowment in Hydrogeology (1996 - 1997)

Recipient, Edwin L. Drake Scholarship ( 1996)

**Ronald W. Stingelin, Ph.D**

**Certified Professional Geologist (CPG #3555)  
Registered Professional Geologist (PA #83, KY #468)**

**EDUCATION**

Ph.D. in Geology (1965) The Pennsylvania State University  
M.S. in Geology (1959) Lehigh University  
B.S. (Geology) (1957) The City College, City University. Of New York

**SHORT COURSES**

Introduction To Mine and Quarry Valuation, IAAO Workshop 250, Denver, CO, 1997

Remote Sensing/Surface Mining Workshop, National Mine Health and Safety Academy, Beckley, WV, 1981

Coal Mining Exploration, The Pennsylvania State University, 1978

Fundamentals Of Rock Mechanics, The Pennsylvania State University, 1977

Elements of Coal Preparation, The Pennsylvania State University, 1977

Microwave Remote Sensing Of Earth, Ocean, and Atmosphere, George Washington University, 1976

Coal Characteristics And Coal Conversion Processes, The Pennsylvania State University, 1974

Elements Of Coal Mining, The Pennsylvania State University, 1973

**INTERNATIONAL FIELD EXPEDITIONS**

24th International geological congress, Montreal, Canada, Trip A66, Arctic islands: In ten days (August 9-18, 1972) the party representing residents of ten nations covered 14,384 miles in a DC 7 from Baffin Island to Alaska and to latitude 81 under warm and expert guidance in the geology, history, and humanities of the far north. Quartering was at Edmonton, Frobisher Bay, and Inuvik, with visits to Resolute, Cambridge Bay, Tuktoyaktuk, Norman wells, and Yellowknife and many thousands of miles of low level (200 feet) flight over the arctic tundra.

Ninth International Conference On Carboniferous Stratigraphy and Geology, May 9-16, 1979, Field Trip No. 1, "Proposed Pennsylvanian System Stratotype VA and WVA", Trans West Virginia from Princeton to Morgantown examining the coal bearing strata of the Pennsylvanian System.

August 27-September 1, 1968, Nicaraguan geothermal activity, Manaqua to Leon, pre-proposal field examination of geothermal manifestations potentially detectible utilizing airborne thermal imaging techniques.

## MANAGEMENT SEMINARS AND WORKSHOPS

Management Development Programs, The Pennsylvania State University,

- Management By Objectives Seminar (March 1975)
- Performance Evaluation Workshop (May, 1975)

Management Development Programs, HRB-Singer, Inc., State College, PA.

- Management Development Workshop, 1974
- Management Orientation Seminar, 1968

## EXPERIENCE

### 1980-Present: RESOURCE TECHNOLOGIES CORPORATION

#### Certified/Registered Professional Geologist/ Abandoned Mine Lands and Mineral Resource Specialist

**Expert Testimony:** has been accepted in numerous courts including:

- Greene County, Pennsylvania (1996, 2000) concerning **subsidence** caused by longwall mining under a cemetery.
- Allegheny County, Pennsylvania (1996) concerning Coal and limestone resources
- Schuylkill County, Pennsylvania (1995) concerning taxable anthracite coal reserves
- Laurel County, Kentucky (1994) concerning oil and gas reserves in Clay County, Kentucky.
- Western District Of Pennsylvania, Pittsburgh, Pennsylvania (1990) concerning coal reserves, mining feasibility, and Tipple usage in Fayette County, Pennsylvania.
- Greene County, Pennsylvania (1989), Waynesburg, concerning coal reserves and mining feasibility of County coal tracts.
- Northern District Of West Virginia, Elkins, West Virginia (1983, 1985, 1987, Ongoing) concerning coal, oil, and gas reserves and mining feasibility in Lewis County, West Virginia.
- Middle District Court Of Pennsylvania, Williamsport, Pennsylvania (1983) concerning **anthracite** resources and mining feasibility in the Wyoming Valley, Luzerne County, Pennsylvania.
- Western District Of Pennsylvania, Pittsburgh, Pennsylvania (1988) concerning coal reserves and mining feasibility in Indiana County, Pennsylvania.
- Monmouth County, New Jersey (1986) concerning quantity, quality, and mining feasibility of sand and gravel deposits in Wall Township, Monmouth County, New Jersey.
- Gloucester County, New Jersey (1987, 1989, 1990) concerning quantity, quality, and mining feasibility of glauconitic deposits (Greensands) in Deptford Township, Gloucester County.
- Lackawanna County, Pennsylvania (1975) concerning the use of airborne thermal imagery in mapping underground coal fires.

## Recent Appraisal Projects:

### Coal, Oil, And Gas

- Prepared estimates of remaining recoverable coal on a previously deep mined property in Allegheny County, Pennsylvania (2000)
- Prepared and mapped methodologies for assessing the coal and non coal mineral reserves of Fayette County, Pennsylvania (1997)
- Prepared methodologies for assessing the **coal reserves** of West Virginia (1996-1997)
- Prepared estimates of remaining minable **anthracite coal** reserves for active mining operations in Schuylkill County, Pennsylvania (1995-1996)
- Geologic reports on **subsidence** effects of longwall coal mining under a cemetery in Greene County, Pennsylvania (1996, 1999)
- Prepared estimates of remaining resources of **coal, oil, and gas** for a property near Manchester, Clay County, Kentucky
- Prepared estimates of remaining resources and minable reserves for approximately 13,000 acres of land in Schuylkill County, Pennsylvania (1994)
- Prepared estimates of remaining **coal** reserve acreage in West Finley, East Finley, Morris, Donegal, Blaine, Buffalo, South Franklin, and Mount Pleasant Townships, Washington County, PA., and **oil and gas potential** in the District (1989-1990).
- Prepared estimates of remaining **coal** reserve acreage for active mining and reserve blocks in Greene County, PA inclusive of the Pittsburgh, Sewickley, and Waynesburg coal seams, and **oil and gas** potential in all townships (1988-1990).
- Prepared estimates of the remaining **coal** resources and reserves and mining feasibility for properties in Burrell Township, Indiana County, Pennsylvania (1987).
- Prepared estimates of remaining bituminous **coal, oil, and gas** reserves and mining feasibility for numerous properties in Lewis County, West Virginia (1983 - 1988) and for a property in Taylor County West Virginia (1992).
- Prepared estimates of remaining **coal, oil, and gas** reserves and mining feasibility for numerous properties in Fayette and Greene Counties, Pennsylvania (1988,1989,1990).
- Prepared estimates of remaining coal refuse for an on-going **anthracite** coal recovery operation in Luzerne County, PA (1986).
  
- Prepared estimates of remaining **coal, oil, and gas** reserves for Centre and Clinton Counties, Pennsylvania (1981, 1982).
- Prepared estimates of remaining **bituminous coal** reserves and mining feasibility for properties in Upshur County, WV (1983).
- Prepared detailed estimates of the remaining **anthracite** resources and reserves in the four coal fields of northeastern Pennsylvania (1980-1984).
- Prepared remaining **anthracite** coal resource/reserve estimates and mining feasibility for numerous properties in Lackawanna, Luzerne, and Schuylkill Counties, Pennsylvania (1981-1984).
- Prepared estimates of remaining **semi-anthracite** reserves and mining feasibility for properties in Sullivan County, PA (1981).

### Other Minerals

- Prepared a geotechnical analysis of a commercial greensand mining operation in Mantua Township, Gloucester County, New Jersey (2000)
  - Prepared a geotechnical analysis of a potential limestone aggregate resource in Elk County, Pennsylvania (2000)
  - Exploratory drilling and core logging for Type A sandstone aggregate in Tioga County, Pennsylvania (1997, 2000)
  - Prepared a geotechnical analysis for a commercial **slate** quarrying operation in Northampton County, Pennsylvania (1997)
  - Prepared estimates of remaining **dolomitic limestone** deposits for a commercial quarrying operation in St. Francois County, Missouri (1996)
  - Located potential **limestone, sandstone, and gravel** reserves for aggregate production in Huntingdon, Mifflin, Juniata, Clinton, Lycoming, and Tioga Counties, Pa. (1995/96)
  - Prepared estimates of reserves and evaluated **granite** quarries in Minnesota, South Dakota, and Texas (1994)
  - Prepared estimates of remaining **sand and gravel** deposits on Blue Coal Property in Luzerne County, Pennsylvania (1993)
  - Prepared estimates of remaining **silica sand** deposits for a natural Area in Cumberland County, New Jersey (1992)
  - Prepared estimates of remaining **glauconitic** deposits (Greensands) for a property in Deptford Township, Gloucester County, New Jersey (1984).
- Prepared estimates of economically minable **sand and gravel** deposits for a property in Monmouth County, New Jersey (1985), a property in McKean County, Pennsylvania (1992), and a property in Atlantic County, New Jersey (1993).
- Prepared estimates of economically minable high-quality **limestone** for a property in Huntington County, PA (1982, 1987).
  - Located sites and potential aquifer zones for exploratory drilling for **groundwater** wells in Centre, Clinton, Jefferson and Mifflin Counties, Pennsylvania (1988, 1989, 1990).

### **Additional Project Experience**

Development of coal seam data for usage in **Geographic Information System** modeling efforts.

Provided **Phase I Environmental Site Assessments** for various project sites in Centre County, Pennsylvania.

Provided **Geotechnical and Inspection and Monitoring Services** related to the investigation and analysis of problems arising from abandoned mine lands on over 50 projects for the U.S. Department of the Interior, Office of Surface mining and Reclamation.

**Co-Author** of a self-instructional manual for the U.S. Geological Survey and Office Of Surface Mining entitled "Low Altitude Photo-interpretation Manual For Surface Coal Mining Operations." Published November 1983 by Resource Technologies Corporation, State College, PA 16804.

**Technical advisor** for a 1981 study for the Office of Surface Mining entitled "Concepts For Protection Against Catastrophic Events Resulting From Coal Mining."

**Principal Investigator** on a study for the U.S. Bureau Of Mines entitled "Defining The Anthracite Resources Of Northeastern Pennsylvania." This 1984 report defines the physical size and geologic distribution of anthracite coal resources in Pennsylvania that are potentially recoverable using surface and underground mining methods. It also presents an analysis of the potential market value of this energy resource.

### **Office of Surface Mining and Reclamation (OSMRE) Project Experience**

Provided geotechnical and inspection and monitoring services related to the investigation and analysis of problems arising from abandoned mine lands. A listing of projects follows:

PO0012036 **Evans Mine Shaft Subsidence**, Madera, Bigler Township, Clearfield County, PA, March 2000, TPO Stephen Rathbun 412 937-2135

PO09912056 **Ansonville Mine Shaft Subsidence**, Ansonville, Jordan Township, Clearfield County, PA, May 1999, TPO George Popper 412/937-2165

PO09712157 **Sutton Subsidence**, Hawk Run, Clearfield County, PA, June 1997, TPO Rick Balogh 412/937-2136

PO09712557 **Patkalitsky Subsidence**, Houtzdale, Clearfield County, PA, Jan. 1997, TPO George Popper 412/937-2165

PO09712535 **Good Street II Subsidence**, Houtzdale, Clearfield County, PA, Dec. 1996, TPO George Popper 412/937-2165

PO09712505 **Carr Subsidence**, Houtzdale, Clearfield County, Pennsylvania, October 1996, TPO George Popper 412/937-2165

PO09612157 **Ray Street Subsidence**, Chester Hill, Clearfield County, Pennsylvania, August 1996, TPO George Popper 412/937-2165

PO9512140 **Holencik II Subsidence**, Houtzdale, Clearfield County, Pennsylvania, July 1995, TPO Ray Maits  
412/937-2148

PO9512118 **Romesberg Refuse Fire**, Rockwood, Somerset County, Pennsylvania, May/June 1995, TPO Jeff Green 412/237-2151

PO9512083 **Beimel Subsidence**, Kersey, Elk County, Pennsylvania, March 1995, TPO George Popper 412/937-2165

PO9512613KP **Evcic Subsidence**, Woodward Twp., Clearfield County, Pennsylvania, February 1995 TPO George Popper 412/937-2165

PO9412243 **Bills/Keefe Subsidence**, Slickport (Mine Entry Collapse), Cambria County, PA, October 1994 TPO George Popper 412/937-2165

PO9412230 **George Pothole Type Subsidence**, Houtzdale, Clearfield County, PA, September 1994 TPO George Popper 412/937-2165

PO9412622 **Pepperday Pothole Type Subsidence**, Rush Township, Centre County, PA April 1994 TPO George Popper 412/937-2165

PO9412015 **Groskin Pothole Type Subsidence**, Penn Hills, Allegheny County, PA December 1993 TPO Rick Balogh 412/937-2136

PO9312370 **Wilkinson Mine Drainage**, Munson, Clearfield County, PA October, 1993 TPO Dan Pollack 412/937-2150

PO9312351 **Rodkey Pothole Type Subsidence**, Brisbin, Clearfield County, PA, July 1993 TPO George Popper 412/937-2165

PO9312345 **Dishon Pothole Type Subsidence**, Hudson, Clearfield County, PA, July 1993 TPO Dan Pollack 412/937-2150

PO9312306 **Harclerode Mine Drainage**, Scalp Level, Cambria County, PA, June 1993 TPO Rick Balogh 412/937-2136

PO9312317 **Persian Avenue Mine Blowout**, Brisbin, Clearfield County, Pennsylvania, June 1993 TPO George Popper 412/937-2165

PO9312311 **B.V. School Subsidence Insp.**, Nanty Glo, Cambria County, Pennsylvania, May 1993 TPO Dan Pollack 412/937-2150

PO9312234 **Shrader Subsidence Inspection**, Frostburg, Allegany Co., Maryland, Feb-Apr 1993 TPO Rick Balogh 412/937-2136

PO9212077 **Stavish Mine Drainage Inspection**, Barnesboro, Cambria County, Pennsylvania, Mar/Apr 1992 TPO Dan Pollack 412/937-2150

PO9212055 **Semelsberger Shaft Subsidence Inspection**, Barnesboro, Cambria County, Pennsylvania, Feb/Mar 1992 TPO Dan Pollack 412/937-2150

PO9212010 **Malec Subsidence Inspection**, Frostburg, Allegany Co., Maryland January, 1992, TPO Rick Balogh 412/ 937-2136

PO9113759 **Sainato Subsidence Inspection**, West Mifflin, Allegheny County, PA, October 1991, TPO Rick Balogh 412/937- 2136

PO9113761 **Kashella Shaft Subsidence Inspection**, Morrisdale, Clearfield County, Pennsylvania, July 1991, TPO Rick Balogh 412/937-2136

PO9113763 **Focht Subsidence Inspection**, Gearhartville, Clearfield County, Pennsylvania, June 1991, TPO Rick Balogh 412/937-2136

PO9112279 **Bills Subsidence Inspection**, Slickport, Cambria County, Pennsylvania, TPO Rick Balogh 412/937-2136

PO9113666 **Gornati Mine Drainage Inspection**, Coal Hollow, Elk County, PA, February 1991, TPO Dan Pollack 412/937-2150

PO9113638 **Zemrose Subsidence Inspection**, Barnesboro, Cambria County, PA, January 1991, TPO Dan Pollack 412/937-2150

P09013508 **Crain Subsidence Inspection**, South Philipsburg, Centre County, PA., September 1990, TPO Art Lees 412/937-2142

PO9013368 **Tyler Tipple & Refuse Bank Inspection**, Tyler, Huston Township, Clearfield Co., PA., February 1990, TPO Art Lees 412/237-2142

PO812970 **Burkett Elementary School Subsidence**, Robinson Township, CT813027 Allegheny County, Pennsylvania, August-October 1988 TPO Rick Balogh 412/937-2136

PO812906 **Hoffman II Subsidence**, Hermitage, Mercer County, CT812053 Pennsylvania, July-September, 1988 TPO: MaryBeth Marks 412/937-2138

PO812884 **Robertson Road Subsidence**, Baldwin Township, Allegheny County, Pennsylvania, June 1988 TPO: Bill Unger 412/937-2149

PO812872 & CT812054 **Robert Culp Subsidence**, Clarksburg, Harrison County, West Virginia, June, August-September 1988 TPO: Robert Coleman 412/937-2137

PO812777 & CT812046 **Mclsaac Subsidence**, Ewingsville, Allegheny County, Pa. April, July 1988 TPO: Ron Mikolajczk 412/937-2132

PO812806 **Slutzker/ Mosser Subsidence**, Canton, Stark County, Ohio CT812041 Apr.-May, 1988 TPO: Bill Ehler 412/937-2839

CT735537 **Berlin Subsidence**, Berlin, Somerset County, Pennsylvania April 1987 TPO: Robert Coleman 412/937-2137

CT735019 **Cedar Street Subsidence Inspection**, Masontown, Fayette County, Pennsylvania Dec.1986-Jan.1987 TPO: Carmen Polino 412/937-2841

J6860165 **Poplar Street Subsidence Inspection**, Paint Borough, Somerset County, PA. Oct.1986 TPO: Keith Harrison 412/937-2848

J6860113 **Reece House Repair Inspection**, North Belle Vernon, Westmoreland County, Pennsylvania June/July 1986 TPO: Rick Balogh 412/937-2856

J6860094 **Pontzer Subsidence Inspection**, Kersey, Elk County, Pennsylvania May 1986 TPO: George Popper 412/937-2931

K6840118 **Smith/Garvey Subsidence Inspection**, Chester Hill, Clearfield Co., PA., June/July 1985 Meg Estep 412/937-2858

K6850103 **Otterbein Subsidence Inspection**, Osceola Mills, Clearfield County, Pennsylvania, May/June 1985 TPO: Meg Estep 412/937-2858

J5150014 **Thompsonville Road Subsidence Inspection**, Thompsonville, Washington County, PA. Oct.1984-Mar.1985 TPO: Lois Uranowski 412/937-2857

K6850084 **Clearfield Mine Drainage Inspection**, Clearfield, Clearfield County, Pennsylvania, June-Aug. 1984 TPO: Carmine Polino 412/937-2841

S5130061 **Chalfant Street Subsidence**, Chalfant Borough, Allegheny County, Pennsylvania Dec.1982-Dec.1983 TPO: Jim Kennedy 412/937-2844

J5201425 **Charles Street Subsidence**, Wheeling, West Virginia June 1981-Sept. 1982 TPO: Jim Kennedy 412/937-2844

J5201425 **Renton Mine Fire**, Plum Borough, Allegheny County, PA. Jan./Feb.1981 TPO: Rick Balogh 412/937-2856

J5201425 **Dakota Street Subsidence**, Pittsburgh, Allegheny County, PA. Nov./Dec.1980 TPO: Rick Balogh 412/937-2856

J5201425 **Route 924 Subsidence (ANTHRACITE)** Sheppton, Schuylkill County, Pennsylvania Sept/Oct.1980 TPO: Carl Sauer 717/826-6726

J5201425 **Midway Subsidence**, Midway, Washington County, Pennsylvania June/July 1980 TPO: Robert Coleman/Tilak Verma 412/937-2137

PO5201210 **RFP Preparation For OSM AML Investigations**, Charleston, West Virginia Office, 1980 TPO: Earl Cunningham

### **Related Experience**

**Co-Author** of a self-instructional manual for the U.S. Geological Survey and Office Of Surface Mining entitled "Low Altitude Photo-interpretation Manual For Surface Coal Mining Operations." Published November 1983 by Resource Technologies Corporation, State College, PA 16804.

**Technical advisor** for a 1981 study for the Office of Surface Mining entitled "Concepts For Protection Against Catastrophic Events Resulting From Coal Mining."

**Principal Investigator** responsible for the technical leadership of a study for the U.S. Bureau Of Mines entitled "Defining The Anthracite Resources Of Northeastern Pennsylvania." This 1984 report defines the physical size and geologic distribution of anthracite coal resources in Pennsylvania that are potentially recoverable using surface and underground mining methods. It also presents an analysis of the potential market value of this energy resource.

#### **1965-1980: HRB-SINGER, INC. - ENERGY & NATURAL RESOURCES DEPARTMENT**

**Principal Geologist** responsible for the management and technical direction of research proposal efforts, projects, and the expansion into new areas of technology.

Later efforts include applied research into pre-mining identification of hazards associated with coal mine roof measures, a technology assessment of **energy development in Appalachia**, and geotechnical research in land subsidence resulting from underground mining, sinkhole development in karst terranes, and drainage of coastal organic wetlands.

Earlier efforts include development of a maximum subsidence prediction model resulting from research on subsidence potential in the Anthracite Region of Northeastern Pennsylvania. This model was improved and modified to fit conditions in the Eastern Bituminous Coal Fields in subsequent research on the impact of overmining and undermining on the Eastern Underground Coal Reserve Base.

Additional efforts were in the application of color and color IR photography in vegetation monitoring of reclaimed stripped coal lands; the longterm effectiveness of mine seals in acid mine drainage abatement; assessment and evaluation of the natural resources of Appalachia; regional analysis of coal resources in the United States; application of digital processing techniques for airborne and satellite data to the solution of environmental problems; and the application of remote sensing data as an aid in geotechnical analysis.

**Senior Research Geologist** specializing in field operational management of airborne thermal infrared imaging surveys and development of techniques and criteria applicable to specific terrane problems. Project Director, Connecticut River Thermal Pollution Survey, Piscataqua River Current Survey, Geological Survey in Northern Alberta, Canada, and the ESSA Atmospheric Physics Data Collection Project in Colorado. Proposal preparation for domestic and foreign remote sensing data collection and analysis efforts.

**Research Geologist** directing in-house research into the application of airborne thermal infrared imaging techniques to geoscience data collection with emphasis on the collection and interpretation of regional infrared mosaics. Participated in and directed the Merrimack River survey, airborne infrared experiments in eastern Canada, surveys of the shorelines of Lake Erie and Ontario, subsurface burning coal refuse piles in Pennsylvania, and gas transmission line right-of-ways in New York, Pennsylvania, and West Virginia.

#### **1959-1965: THE PENNSYLVANIA STATE UNIVERSITY**

**Graduate Research and Teaching Assistant**, Department of Geology and Geophysics, Coal Research Laboratory. Extensive research on fossil spores and pollen; field work (Summer 1960) in the Everglades National Park, Florida, collecting and studying organic sediments and modern environments of coal deposition. Teaching Laboratory Sections in Physical Geology, Historical Geology, and Paleobotany. Temporary staff appointment (Summer 1965), Department of Geology and Geophysics, teaching the Geology of the United States.

**1962-1963: THE CITY COLLEGE OF NEW YORK**

**Lecturer** in Geology: (Summers Only)

**HONORS**

**NSF/ASP Visiting Scientist:** 1968-69. 1969-1970. Presented lectures on remote sensing at Indiana University Of Pennsylvania, The University of Virginia, The University of Tennessee, The University of Georgia, and The Louisiana State University.

**Carnegie Teaching Internship:** 1963, City College Of New York.

**New Jersey Zinc Company Research Fellowship:** 1957-1959, Lehigh University

**INVITED SPEAKER**

Subsidence Workshop, The Pennsylvania State University, Capitol Campus, 1979.

Central Pennsylvania Chapter, Association of Professional Engineers, 1978.

Geotechnical Group, Central Pennsylvania Section, American Society of Civil Engineers, 1977.

Remote Sensing Symposium, U.S. Army Corps of Engineers, L. B. Johnson Space Center, Houston, Texas, November 1973.

Symposium on Remote Sensing of the Atmosphere from Aircraft, ASM/NCAR, Boulder, Colorado, April 1970.

Remote Sensing of Natural Resources Institute, University of Wisconsin, January 1970.

Symposium of Remote Sensing Application in Agricultural and Natural Resource Research, The Pennsylvania State University, June 1969.

First Annual International Remote Sensing Institute (IRSI) Symposium, Sacramento, California, April 1969.

**MEMBERSHIPS**

Senior Fellow, Geological Society Of America  
American Institute of Professional Geologists

## **LISTINGS**

American Men of Science, Sixth Supplement