

MAR 10 1987

300/MFW/87/03/09/TR

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MEMORANDUM FOR: Myron H. Fliegel, Section Leader  
 Hydrology Section  
 Geotechnical Branch, WM

FROM: Michael F. Weber  
 Hydrology Section  
 Geotechnical Branch, WM

SUBJECT: TRIP REPORT FOR THE MEETING OF THE NORTHEASTERN SECTION  
 OF THE GEOLOGICAL SOCIETY OF AMERICA, MARCH 4-7, 1987

On March 5-7, 1987, I participated in the Annual Meeting of the Northeastern Section of the Geological Society of America at the Pittsburgh Hilton Hotel in Pittsburgh, Pennsylvania. The primary purpose of my attendance was to present the paper entitled "Using ALARA to Determine 'How Clean is Clean' in Ground-Water Restoration Projects," which I presented in Poster Session VI on Friday, March 6. Enclosure I provides the agenda for the meeting. In addition to Poster Session VI, I attended portions of the following technical sessions: Hydrogeology I and II, Sedimentology, Frontiers in Pennsylvania Geology, Environmental Geology, Boston Basin and Adjacent Avalon Terrane of Southeastern New England, Quaternary Geology, Sedimentary Petrology/Marine Geology, Hydrodynamics and Sedimentology of a Back-Barrier Lagoon - Salt Marsh System, Structural Geology II, Geomorphology, and Poster Sessions I-V and VII.

My poster presentation on the use of the ALARA approach in setting restoration levels for contaminated groundwater was well received. I attribute part of the success of my presentation to the effective graphics developed by NRC's Graphics Section. In addition to answering questions about my presentation, I discussed general aspects of NRC's HLW and LLW programs and employment opportunities with meeting participants. Participants were especially interested in the status of DOE's HLW repository program and state efforts to develop disposal sites for LLW.

The annual meeting provided me with a status report on current geologic evaluations in the northeastern U.S. and selected areas outside of the region. NRC needs such information to support assessments of nuclear facility sites and development of regulatory guidance and regulations. For example, several of the hydrogeology presentations focused on contemporary efforts to restore aquifers that have been contaminated by organic and inorganic constituents. These presentations summarize lessons learned in groundwater restoration projects that support ongoing NRC efforts to coordinate groundwater protection activities and to assess groundwater contamination at waste management sites. As another example, D. Caldwell summarized the effects of a two-hour, six-inch rainfall that occurred in New Hampshire in 1986. Dr. Caldwell concluded that the flood associated with this intense precipitation had a recurrence interval of approximately 200 years and attained flow velocities in excess of 10 ft/s. I suggest that we consider contacting Dr. Caldwell for additional information about the August 1986 flood of the Cold River to support evaluations of disposal sites relevant to the effects of design event storms and floods.

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Please contact me if you wish to discuss my presentation or my participation in the annual meeting.

*MF*

Michael F. Weber  
Hydrology Section  
Geotechnical Branch, WM

Enclosure:  
Meeting Agenda

cc: M.D.Baggett, PGB

MAR 10 1987

OFFICIAL CONCURRENCE AND DISTRIBUTION RECORD

MEMORANDUM FOR: Myron H. Fliegel  
Hydrology Section

FROM: Michael F. Weber  
Hydrology Section

SUBJECT: TRIP REPORT FOR THE MEETING OF THE NORTHEASTERN SECTION  
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DATE: 3/10/87

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CONCURRENCES

ORGANIZATION/CONCUREE	INITIALS	DATE CONCURRED
WMGT/MWeber	<u>    <i>MW</i>    </u>	87/03/11

NOTE: ENCLOSURE NOT AVAILABLE ON THE 5520.

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Rec'd by oec*

# **PROGRAM**

# **1987**



**22nd Annual Meeting**

## **NORTHEASTERN SECTION**

**The Geological Society of America**

with the  
Northeastern Section of the  
Paleontological Society  
Eastern Section of the  
Society of Economic Paleontologists and Mineralogists  
and the  
Eastern Section of the  
National Association of Geology Teachers

**March 4-7, 1987**  
**Pittsburgh Hilton Hotel**  
**Pittsburgh, Pennsylvania**

# TECHNICAL SESSIONS

Annual meeting policy prohibits the use of cameras or sound-recording equipment at technical sessions and poster sessions.



A no-smoking policy has been established by the Program Committee and will be followed in all meeting rooms for technical sessions.

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THURSDAY, MARCH 5, 1987

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**SYMPOSIUM: PREDATOR-PREY RELATIONSHIP AS SHOWN BY FOSSILS**  
Ballroom #3, Pittsburgh Hilton, 0800 hours

Jean M. Berdan, Presiding

- 1 Mark A.S. McMenamin\*: THE FATE OF THE EDIACARAN FAUNA, THE NATURE OF CONULARIIDS, AND THE BASAL PALEOZOIC PREDATOR REVOLUTION [115019] ..... 0800
  - 2 Richard R. Alexander, Dale A. Springer\*: PSEUDOPUNCTAE IN PALEOZOIC BRACHIOPOD SHELLS AND REPAIR OF PREDATOR-INDUCED FRACTURES [118437] ..... 0830
  - 3 Gerald J. Kloc\*: COPROLITES CONTAINING AMMONOIDS FROM THE DEVONIAN OF NEW YORK [118600] ..... 0900
  - 4 R. E. Mapes\*, D. R. Boardman III: EVIDENCE OF PREDATION IN MIDCONTINENT UPPER PALEOZOIC ANOXIC AND DYSAEROBOIC MARINE ENVIRONMENTS [133293] ..... 0930
  - 5 William B. Boston\*, Michael Sims, Royal H. Mapes: PREDATION ON CEPHALOPODS FROM THE FINIS SHALE (PENNSYLVANIAN-VIRGILIAN) OF TEXAS [128493] .... 1000
  - 6 Michael S. Sims\*, William B. Boston, Royal H. Mapes: PREDATION ON AN UPPER CARBONIFEROUS AMMONOID GONIOLOBOCERAS [133295] ..... 1030
  - 7 Harold B. Rollins\*, David K. Brezinski: REINTERPRETATION OF CRINOID - PLATYCERATID INTERACTION: NEW EVIDENCE FROM THE CHESTERIAN OF SOUTHWESTERN PENNSYLVANIA [131977] ..... 1100
  - 8 Carlton E. Brett\*: PREDATORY AND PARASITIC INTERACTIONS IN THE MIDDLE PALEOZOIC: A SYNOPSIS [118602] ..... 1130
- DISCUSSION ..... 1200

**HYDROGEOLOGY I**

Ballroom #4, Pittsburgh Hilton, 0840 hours

John H. Williams and John J. Fisher, Presiding

- 1 John J. Fisher\*, Reinhard K. Frohlich: REMOTE SENSING AND GEOPHYSICAL MAPPING OF FRACTURE ZONES AND HYDROGEOLOGIC IMPLICATIONS [115084] ..... 0840
- 2 James C. Hall\*: SOME PROBLEMS WITH FINITE MATHEMATICS AND NON-LINEAR DIFFERENTIAL EQUATIONS [129837] ..... 0900
- 3 John H. Williams\*, Richard J. Reynolds: SEISMIC-REFLECTION STRATIGRAPHY OF GLACIAL-DRIFT DEPOSITS ALONG THE SUSQUEHANNA AND CHEMUNG RIVERS, NORTH-CENTRAL PENNSYLVANIA [132148] ..... 0920
- 4 Matthew R. Hoagland\*, Edward P. Kelly: BACTERIAL CONTAMINATION OF THE WEST BRANCH OF THE WESTPORT RIVER, MASS. AND R.I. [133561] ..... 0940

- 5 Polly L. Moog\*, D. W. Caldwell: THE HYDROGEOLOGY AND FRESHWATER INFLUX OF BUTTERMILK BAY, MASSACHUSETTS WITH REGARD TO THE CIRCULATION OF COLIFORM AND POLLUTANTS: A MODEL STUDY AND DEVELOPMENT OF METHODS FOR GENERAL APPLICATION [130339] ..... 1000
- 6 Robert T. Paulsen\*: GROUND-WATER FLOW IN CARBONATE-ROCKS OF THE LITTLE LEHIGH CREEK BASIN, LEHIGH COUNTY, PENNSYLVANIA [133193] .... 1020
- 7 William E. Penn\*, Norman H. Gray: GEOLOGY AND HYDROLOGY OF THE SEDIMENTARY BEDROCK OF OLD NEW-GATE PRISON AND COPPER MINE, EAST GRANBY, CT [115128] ..... 1040

**SEDIMENTOLOGY**

Ballroom #1, Pittsburgh Hilton, 0820 hours

Karl A. Mertz and Roger J. Bain, Presiding

- 1 Stephen K. Kennedy\*, Eric A. Smith, Ron Pinkoski: SOME ASPECTS OF THE HISTORY OF ST. CATHERINES ISLAND, GEORGIA [131993] ..... 0820
  - 2 Michael F. Dacey\*, Jon C. Boothroyd: LATE QUATERNARY STRATIGRAPHY OF THE MISQUAMICUT/WINNAPAUW BARRIER LAGOON SYSTEM [118151] ..... 0840
  - 3 Deborah Freile\*, Christopher T. Baldwin: MICRO-TIERING IN GRAPHOGLYPTID TRACE FOSSILS AS BOUNDARY LAYER FLOW INDICATORS [130344] ..... 0900
  - 4 John A. Golden, Jr., Benno M. Brenninkmeyer: EFFECTS OF GRAIN PIVOTING ANGLES ON COARSE GRAINED SEDIMENT TRANSPORT [117980] ..... 0920
  - 5 Wei-Hsiung Lin\*, Stephen K. Kennedy: DEVELOPMENT OF MULTIFRACTAL ANALYTIC PROCEDURES FOR QUANTIFICATION OF SHAPE [131985] ..... 0940
- COFFEE BREAK ..... 1000
- 6 Karen L. Wetmore\*: BENTHIC FORAMINIFERA ARE BIOTURBATORS [128706] ..... 1020
  - 7 Karl A. Mertz, Jr.: DIAGENETIC SIGNATURES IN ORGANIC-RICH HEMIPELAGITES: TOWARDS IMPROVED FACIES RECOGNITION - A PERSPECTIVE FROM THE PACIFIC RIM (MIOCENE) [121579] ..... 1040
  - 8 Robert L. Kendall\*, Roger J. Bain: MULTIPLE EXPOSURE SURFACES WITHIN LOWER DEVONIAN CARBONATES OF NORTHERN OHIO [121239] ..... 1100
  - 9 Fraser K. Hamilton\*: PALEOENVIRONMENTAL ANALYSIS OF A SINGLE PUNCTUATED AGGRADATIONAL CYCLE, UPPER KEYSER FORMATION, CENTRAL PENNSYLVANIA [119207] ..... 1120
  - 10 Gary G. Lash\*: SEDIMENTOLOGIC AND PALEOCEANOGRAPHIC SIGNIFICANCE OF MUDSTONE TURBIDITES AND ASSOCIATED DEPOSITS OF THE MARTINSBURG FORMATION (PEN ARGYL MEMBER) [115295] ..... 1140

**TECTONICS**

Ballroom #2, Pittsburgh Hilton, 0820 hours

Peter Robinson and J. Christopher Hepburn, Presiding

- 1 Robert J. Altamura\*: THE SNAKE MEADOW BROOK - LANTERN HILL FAULT SYSTEMS, AN EN ECHELON(?) BRITTLE FAULT ZONE, EASTERN CONNECTICUT [118414] ..... 0820
- 2 Peter Robinson\*: ROOT ZONES OF THE ACADIAN BERNARDSTON NAPPE AND BRENNAN HILL THRUST, MT. GRACE AREA, NORTH-CENTRAL MASSACHUSETTS [115007] ..... 0840
- 3 Henry N. Berry IV\*: IMBRICATE THRUST SLICES OF PRE-SILURIAN BASEMENT AND SILURIAN-DEVONIAN COVER IN THE MERRIMACK BELT, SOUTHERN MASSACHUSETTS AND NORTHERN CONNECTICUT [115009] ..... 0900
- 4 David B. Finkelstein\*: SENSE OF SHEAR IN A MAJOR MID-ACADIAN MYLONITE ZONE IN GRANULITE FACIES METAMORPHOSED TONALITE AND RANGELE FORMATION OF THE MERRIMACK BELT, NORTHEASTERN CONNECTICUT [132645] ..... 0920
- 5 Dwight C. Bradley\*: TECTONIC CONTROLS OF STRATIGRAPHY IN THE ACADIAN FORELAND, NORTHERN APPALACHIANS [119033] ..... 0940
- COFFEE BREAK ..... 1000
- 6 D. R. Lux\*, J. J. De Yoreo: MAGMATIC EROSION OF THE ACADIAN OROGENIC ROOT [118244] ..... 1020
- 7 Mary K. Roden\*, Donald S. Miller: THERMAL AND BURIAL HISTORY OF THE TIOGA ASH BED IN THE APPALACHIAN BASIN OF PENNSYLVANIA BASED ON APATITE FISSION-TRACK CHRONOLOGY [128102] ..... 1040
- 8 Craig Dietsch\*, John Sutter: TECTONIC AND METAMORPHIC EVOLUTION OF WESTERN CONNECTICUT AS INTERPRETED FROM 40Ar/39Ar DATA [128518] ..... 1100
- 9 J. Christopher Hepburn\*, D. R. Lux, Malcolm Hill: 40Ar/39Ar CARBONIFEROUS COOLING AGES FROM THE NASHOBA TERRANE, EASTERN MASSACHUSETTS [115057] ..... 1120

**METAMORPHIC PETROLOGY/PRECAMBRIAN GEOLOGY**

Kings Garden North, Pittsburgh Hilton, 0800 hours

A. I. Benimoff and Edward G. Lidiak, Presiding

- 1 D. Gibson\*, F. A. Hubacher, D. R. Lux: PETROGENESIS OF TWO ZONED PLUTONS FROM NORTHERN MAINE [127657] ..... 0800
- 2 L. A. Helsen\*, G. M. Boone: MINERALOGY AND CHEMISTRY, MID- TO LATE ORDOVICIAN LOBSTER MOUNTAIN METAVOLCANICS, MAINE [129812] ..... 0820
- 3 Andrew D. Lent\*: COMPARATIVE PETROLOGY OF METAMORPHOSED MAFIC ROCKS IN THE MAIN BODY OF MONSON GNEISS AND OVERLYING ORDOVICIAN AMMONOOSUC AND PARTRIDGE VOLCANICS, MASSACHUSETTS [115385] ..... 0840
- 4 A. I. Benimoff\*, P. B. Moore, C. B. Sclar: A MANGANESE-RICH METAMORPHIC ASSEMBLAGE IN THE GRENVILLE MARBLE, BALMAT, N.Y. [119260] .... 0900
- 5 Paul J. Sharga, Charles B. Sclar\*: PETROLOGY OF THE LINEATED GARNETIFEROUS GNEISS, GORE MOUNTAIN, WARREN COUNTY, NEW YORK [128152] ..... 0920
- COFFEE BREAK ..... 0940
- 6 Helen M. Lang\*: EVIDENCE FROM GARNET ZONING FOR OVER-THRUSTING IN THE EASTERN MARYLAND PIEDMONT [120403] ..... 1000
- 7 Allison Lochhead\*, James McLelland: CROSS-CUTTING METAMORPHOSED MAFIC INTRUSIONS IN THE ADIRONDACKS AND THEIR IMPLICATIONS [118739] ..... 1020
- 8 Matthew Nyman\*, Susan M. Swapp: SOUTHEASTERN ADIRONDACK METAGABBROS: FIELD AND PETROGRAPHIC RELATIONS [118670] ..... 1040
- 9 Paul W. Ollila\*, Daniel A. Greeman, James F. Olmsted: THE GEOLOGY OF THE WILLSBORO WOLLASTONITE DEPOSIT: SHALLOW VERSUS DEEP EMPLACEMENT OF ADIRONDACK ANORTHOSITE [118812] ..... 1100
- 10 James D. Pattee\*: GEOLOGY OF THE WEST CANADA LAKES 7 1/2' QUAD, SOUTH CENTRAL ADIRONDACKS, NEW YORK [120549] ..... 1120
- 11 G. B. Stracher\*, N. Lindsley-Griffin, P. R. Whitney: PETROLOGY AND STRUCTURE OF PRECAMBRIAN ROCKS IN A HIGH DUCTILE STRAIN ZONE, S.E. ADIRONDACK MOUNTAINS OF NEW YORK STATE [123215] ..... 1140

**POSTER SESSION I: MORE CLASSIC FIELD SITES FOR TEACHING EARTH SCIENCE IN THE NORTHEAST**

Le Bateau, Pittsburgh Hilton, 0900 hours - 1200 hours

Authors will be present from 1000 to 1200 hours

- Marie Morisawa\*: WATKINS GLEN: A TEACHING FIELD SITE FOR RIVER ACTION [133122] ..... Booth 1
- Allan M. Thompson\*: THE TACONIAN CLASTIC WEDGE AT MANN NARROWS, REEDSVILLE, PENNSYLVANIA [133117] ..... Booth 2
- David J. Thomas\*: FIELD INVESTIGATIONS INVOLVING GLACIAL, POST GLACIAL, AND MODERN COASTAL PROCESSES IN THE ERIE, PA AREA [133118] ..... Booth 3
- George C. Stephens\*: SCHUYLKILL GAP AREA, PENNSYLVANIA - AN OUTDOOR CLASSROOM IN THE VALLEY AND RIDGE PROVINCE OF THE CENTRAL APPALACHIANS [119571] ..... Booth 4
- W. D. Sevon\*: HICKORY RUN BOULDER FIELD, HICKORY RUN STATE PARK, CARBON COUNTY, PENNSYLVANIA: A CLASSIC FIELD SITE FOR TEACHING EARTH SCIENCE [119334] ..... Booth 5
- Dale A. Springer\*, Norman M. Gillmeister\*: LEHIGH WATER GAP, PALMERTON, PENNSYLVANIA [133124] ..... Booth 6
- Glenn H. Thompson, Jr.\*: THE SUSQUEHANNA RIVER GORGE AT HOLTWOOD, PENNSYLVANIA [128170] ..... Booth 7
- Gerald H. Johnson, Bruce K. Goodwin\*, Kelvin W. Ramsey: THE "R" STREET EXPOSURE: A MARINE AND FLUVIAL SEDIMENTARY SEQUENCE NEAR THE FALL ZONE AT RICHMOND, VA [119852] ..... Booth 8
- Brian B. Tormey\*: LITTLE SINKING VALLEY: A CENTRAL APPALACHIAN GEOMORPHIC FIELD SITE [133131] ..... Booth 9
- Charles M. Onasch\*, J. V. O'Connor, B. Levinson: STRUCTURE AND GEOMORPHOLOGY OF HARPERS FERRY [133125] ..... Booth 10
- R. Laurence Davis\*: NAGT SITE: LETCHWORTH STATE PARK, NEW YORK [133022] ..... Booth 11

**POSTER SESSION II**

Kings Garden South, Pittsburgh Hilton, 0900 hours - 1200 hours

Authors will be present from 1000 to 1200 hours

- Kurt Hollocher\*: PETROLOGY AND GEOCHEMISTRY OF THE MONSON GNEISS AND RELATED ROCKS, BRONSON HILL ANTICLINORIUM, MASSACHUSETTS [115387] ..... Booth 1
- Frank A. Revetta\*, Shaun Lalonde, Jon Klink: RELATIONSHIP OF GRAVITY FIELD TO POTENTIAL GEOTHERMAL ENERGY SOURCES IN WESTERN NEW YORK [115409] ..... Booth 2
- Frank A. Revetta, J. Klink\*, Fred Stone: GEOLOGICAL INTERPRETATION OF GRAVITY ANOMALIES IN THE GLEN FALLS QUADRANGLE [120331] ..... Booth 3
- Protip K. Ghosh\*, Sami A. Melki, Thomas J. Mannakill: PETROCHEMISTRY OF MAFIC DIKES OF LEWISTON-AUBURN, MAINE [120436] ..... Booth 4
- R. A. Ayuso\*, M. F. Horan, R. E. Criss: Pb AND OXYGEN ISOTOPIC GEOCHEMISTRY OF THE NORTHERN MAINE PLUTONIC BELT [129030] ..... Booth 5
- David C. Wehn\*, Peter S. Dahl: THE SYSTEMATICS OF TRACE-ELEMENT PARTITIONING BETWEEN COEXISTING BIOTITES AND MUSCOVITES IN PELITIC SCHISTS [130393] ..... Booth 6
- Susan M. Swapp\*, Matthew Nyman: PETROGRAPHIC AND CHEMICAL COMPARISONS OF SHEARED AND UNSHEARED METABASIC DIKES; SOUTHEASTERN ADIRONDACKS [118485] ..... Booth 7
- Walter L. Pilant\*: PC-INTERACTIVE STEREO NET PLOTTING [131982] ..... Booth 8
- Beth Z. Lincoln\*, Timothy N. Lincoln: STRUCTURES IN THE KINGMAN FAULT ZONE, EAST-CENTRAL MAINE [116270] ..... Booth 9
- Gregory C. Herman\*: STRUCTURE OF THE GREEN POND OUTLIER FROM DOVER TO GREENWOOD LAKE, NEW JERSEY [118448] ..... Booth 10
- Robert K. Schwartz\*, Ronald B. Cole, Kimberly J. Herendeen: INTRAFORLAND CONFIGURATION OF THE APPALACHIAN BASIN AND RELATIONSHIP TO TECTONICS [115527] ..... Booth 11
- Assad Iranpanah\*, Edgar M. Hopkins: TECTONIC ANALYSIS OF LINEAMENTS DELINEATED ON LANDSAT IMAGERY OF THE ALLEGHENY PLATEAU IN NORTH-CENTRAL PENNSYLVANIA AND WESTERN NEW YORK [115515] ..... Booth 12

**SYMPOSIUM: FRONTIERS IN PENNSYLVANIA GEOLOGY**  
Ballroom #1, Pittsburgh Hilton, 1330 hours

Donald M. Hoskins and Thomas M. Berg, Presiding

INTRODUCTION: Donald M. Hoskins ..... 1330

- 1 Rodger T. Faill\*: TECTONICS AND STRUCTURAL GEOLOGY OF THE CENTRAL APPALACHIANS IN PENNSYLVANIA: RECENT DEVELOPMENTS AND FUTURE PROSPECTS [119337] ..... 1400
- 2 Mary Louise Hill\*: RECENT STUDIES AND NEW IDEAS IN METAMORPHIC GEOLOGY OF THE S.E. PENNSYLVANIA PIEDMONT [115441] ..... 1430
- 3 John A. Harper\*: EFFECTS OF PRE-ALLEGHANIAN TECTONICS ON LATE DEVONIAN AND EARLY MISSISSIPPIAN ROCKS IN SOUTHWESTERN PENNSYLVANIA [119506] ..... 1500
- 4 Joseph P. Smoot\*: RECENT ADVANCES IN SEDIMENTOLOGY OF THE NEWARK SUPERGROUP IN PENNSYLVANIA [133844] ..... 1530
- 5 Thomas W. Gardner\*: PENNSYLVANIA GEOMORPHOLOGY: ON PENEPLAINES, RIVERS, ICE, SOILS, AND THE NEED FOR BETTER AGE CONTROL [133018] ..... 1600
- 6 Reginald P. Briggs\*: A FRESH LOOK AT THE PHYSIOGRAPHY OF THE APPALACHIAN PLATEAUS IN PENNSYLVANIA [119331] ..... 1630
- 7 Thomas M. Berg\*: GEOLOGIC MAPPING IN PENNSYLVANIA--CHALLENGES FOR THE FUTURE [119342] ..... 1700

DISCUSSION ..... 1730

**ENVIRONMENTAL GEOLOGY**

Ballroom #4, Pittsburgh Hilton, 1340 hours

Robert E. Behling and Nancy M. Davis, Presiding

- 1 Robert E. Behling\*, Michael K. Jordan: WETLAND/RIPARIAN RECONSTRUCTION FOLLOWING SURFACE MINING: PART I. CHARACTERIZATION OF SUBSTRATE [120408] ..... 1340
- 2 Nancy M. Davis\*, Rudolph Hon: RADON EMANATION: A STUDY OF THE MECHANISMS AND RATES OF RELEASE [127531] ..... 1400
- 3 Rudolph Hon\*, Peter M. Dillon, Nancy M. Davis: EMANATION RATES OF TWO RADON ISOTOPES OF THE THORIUM AND URANIUM DECAY SERIES MEASURED ON BULK ROCK SAMPLES [115059] ..... 1420
- 4 William D. Lilley\*, Charles Kunz, B. Kothari: GEOLOGIC FACTORS IN PREDICTING INDOOR RADON IN NEW YORK [132920] ..... 1440
- 5 Franklin B. McLaughlin\*, Mark D. Feigenson: MODES OF TRACE METAL TRANSPORT IN THE RARITAN BASIN, NJ [115182] ..... 1500

COFFEE BREAK ..... 1520

- 6 Robert T. Pavlowsky\*, William H. Renwick: EVALUATION OF HEAVY METAL SOURCES AND TRANSPORT VARIATION WITHIN THE RARITAN BASIN, NJ [115180] ..... 1540
- 7 Craig B. Fish\*, D. M. Fitzgerald, D. W. Caldwell, C. T. Baldwin: COLIFORMS IN MARINE EMBAYMENTS: CONCENTRATION RELATED TO A CIRCULATION MODEL, BUTTERMILK BAY, MA [130363] ..... 1600
- 8 Paul M. Feinberg\*, Arthur H. Brownlow: WATER QUALITY OF THE NEPONSET RIVER, EASTERN MASSACHUSETTS [115067] ..... 1620
- 9 James D. MacKecknie\*, E. Kier Dirlam, R. Laurence Davis: THE EFFECTS OF 11 YEARS OF REDUCED ROAD SALT USAGE ON WATER QUALITY IN PENFIELD, N.Y. [118599] ..... 1640

**IGNEOUS PETROLOGY AND MINERALOGY/CRYSTALLOGRAPHY**  
Kings Garden North, Pittsburgh Hilton, 1340 hours

Anthony R. Philpotts and David V. Stockar, Presiding

- 1 Helen M. Rozzi\*: PROBLEMS ENCOUNTERED ANALYZING DIABASE DIKES [115129] ..... 1340
- 2 Anthony R. Philpotts\*: MESOZOIC DIABASE DIKES AND EXTENSION OF NEW ENGLAND CRUST [118390] ..... 1400
- 3 Mark Busa\*: MECHANISM OF FLUID FLOW IN THE MESOZOIC HIGGANUM DYKE, CONNECTICUT [118391] ..... 1420
- 4 Franoti M. Asher\*: RHEOMORPHISM ASSOCIATED WITH THE MESOZOIC HIGGANUM DIABASE DIKE, CONNECTICUT [118397] ..... 1440

- 5 David H. Burkett\*: SPATIAL VARIATIONS OF COMPOSITION WITHIN THE JURASSIC, HAMPDEN BASALT IN THE HARTFORD BASIN: CONNECTICUT AND SOUTHERN MASSACHUSETTS [118398] ..... 1500
- 6 Amy W. Sheridan\*, Rudolph Hon, J. Christopher Hepburn: THE MILFORD PLUTON: EVIDENCE FOR CRUSTAL DIVERSITY WITHIN THE AVALONIAN TERRANE IN EASTERN MASSACHUSETTS [132609] ..... 1520
- 7 Christer J. Loftenius\*, Rudolph Hon: PETROLOGY AND GEOCHEMISTRY OF THE SHARPNERS POND QUARTZ DIORITE [132610] ..... 1540
- 8 Jill S. Schneiderman\*: ASCUTNEY MOUNTAIN REVISITED: CONTRIBUTIONS OF MINERALOGY AND PETROLOGY TO THE GEOLOGY OF MT. ASCUTNEY, VERMONT [127566] ..... 1600
- 9 Jennifer A. Hayward\*: Rb-Sr AND OXYGEN ISOTOPE ANALYSES OF THREE TWO MICA GRANITE PLUTONS IN MAINE, NEW HAMPSHIRE AND MASSACHUSETTS [127644] ..... 1620
- 10 Paul H. Benoit\*, C. B. Sclar: PYROPHANITE-MAGNETITE INTERGROWTHS IN THE BEEMERVILLE NEPHELINE SYENITE, SUSSEX COUNTY, NEW JERSEY [119254] ..... 1640
- 11 Charles A. Baskerville, Robert H. Fickies, William M. Kelly\*: GARNETIFEROUS ZONES IN THE FORDHAM GNEISS FROM DEEP TUNNELS IN NEW YORK CITY, N.Y., ARE NOT COTICULES [130903] ..... 1700
- 12 David F. Link\*, Daniel M. Leavell: IRON-RICH CLINOPYROXENES FROM CALC-SILICATES OF THE CRANBERRY LAKE AREA, ST. LAWRENCE COUNTY, NEW YORK [128861] ..... 1720

**TECTONICS/GEOPHYSICS**

Ballroom #2, Pittsburgh Hilton, 1340 hours

Paul C. Wuenschel and David V. Stockar, Presiding

- 1 Gerald M. Friedman\*: DEEP-BURIAL DIAGENESIS: ITS IMPLICATIONS FOR VERTICAL MOVEMENTS OF THE CRUST, UPLIFT OF THE LITHOSPHERE, AND ISOSTATIC UNROOFING: A REVIEW [132211] ..... 1340
- 2 Haiyan Hu, Hue Chung Chou\*, David P. Gold: GEOMORPHIC INDICATORS OF NEOTECTONIC ACTIVITY IN THE LANCASTER AREA, PENNSYLVANIA [115507] ..... 1400
- 3 David V. Stockar\*, Shelton S. Alexander: LANCASTER, PENNSYLVANIA SEISMIC ZONE: EVIDENCE FOR A PRESENTLY ACTIVE ZONE OF WEAKNESS [115508] ..... 1420
- 4 John D. Miller\*, Dennis V. Kent: PALEOMAGNETISM OF THE UPPER DEVONIAN CATSKILL FORMATION FROM THE PENNSYLVANIA SALIENT: IMPLICATIONS FOR OROCLINAL ROTATION OF THE PENNSYLVANIA SALIENT AND APPALACHIAN TERRANE HISTORY [119031] ..... 1440
- 5 James J. DeYoreo\*: THE ROLE OF CRUSTAL ANATEXIS AND MAGMA MIGRATION IN REGIONS OF THICKENED CONTINENTAL CRUST [127658] ..... 1500

COFFEE BREAK ..... 1520

- 6 R. A. Jamieson\*, H. A. Plint: GEOLOGY AND TECTONIC SIGNIFICANCE OF THE JUMPING BROOK METAMORPHIC SUITE, WESTERN CAPE BRETON HIGHLANDS, NOVA SCOTIA [133483] ..... 1540
- 7 Heather Plint\*: SYNTECTONIC PROGRADE METAMORPHISM OF THE JUMPING BROOK METAMORPHIC SUITE, WESTERN CAPE BRETON ISLAND, NOVA SCOTIA [133484] ..... 1600
- 8 Robert H. Moench\*, John N. Aleinikoff: THE PIERMONT ALLOCHTHON OF NORTHWESTERN NEW HAMPSHIRE: STRATIGRAPHIC AND ISOTOPIC EVIDENCE [129348] ..... 1620

**GLACIAL GEOLOGY**

Ballroom #3, Pittsburgh Hilton, 1340 hours

James C. Hall and P. Jay Fleisher, Presiding

- 1 Harold W. Borns, Jr.\*, R. Stuckenrath: DEGLACIATION OF THE HENNEFJORD, SOUTH TRONDELAG, WESTERN NORWAY [133252] ..... 1340
- 2 P. E. Calkin, B. J. Przybyl\*, D. S. Kaufman: LATEST QUATERNARY GLACIATION, KIGLUAIK MOUNTAINS, NORTHWESTERN ALASKA [118649] ..... 1400
- 3 P. Jay Fleisher\*: QUATERNARY STRATIGRAPHY AND LANDFORM EVIDENCE FOR STADIAL INTERPRETATION, CENTRAL NEW YORK STATE [118680] ..... 1420

4 J. Steven Kite*: NORTHWESTWARD AND NORTHWARD ICE-FLOW INDICATORS IN NORTHEASTERN AROOSTOOK COUNTY, MAINE [115766] .....	1440
5 J. P. Schafer*, Stephen F. Obermeier, Janet R. Stone: ON THE ORIGIN OF WEDGE STRUCTURES IN SOUTHERN NEW ENGLAND [130970] .....	1500
6 Gregory C. Wiles*: DEGLACIATION OF THE SOUTHERN CATSKILLS [118673] .....	1520
COFFEE BREAK .....	1540
7 G. D. Gephart*, G. J. Larson, W. J. Olszewski, E. E. Gaudette: PRE-LATE WISCONSINAN ICE FLOW RECONSTRUCTION BY ISOTOPIC ANALYSIS OF CHAUDIERE TILL, SOUTHEASTERN QUEBEC [127646] .....	1600
8 Jennifer D. Johnson*: THE HISTORY, CHARACTER, AND GEOTECHNICAL PROPERTIES OF GLACIOGENIC DEPOSITS IN WOOD COUNTY, OHIO [133038] .....	1620
9 Allen G. Melcer*, Peter U. Clark: SEDIMENTOLOGY OF FOUR LATE PLEISTOCENE GLACILACUSTRINE DELTAS, ST. LAWRENCE LOWLAND, N.Y. [127846] .....	1640
10 S. B. Miller*, E. W. Borns, Jr.: HISTORY OF GLACIAL LANDFORMS IN THE DEBLOIS REGION, MAINE [133133] .....	1700
11 Robert W. Oldale*: THE LATE WISCONSINAN MARINE INCURSION OF CAPE COD BAY [130290] .....	1720

POSTER SESSION III: MORE CLASSIC FIELD SITES FOR TEACHING EARTH SCIENCE IN THE NORTHEAST  
Le Bateau, Pittsburgh Hilton, 1400 hours - 1700 hours

Authors will be present from 1500 to 1700 hours

H. Robert Burger*, Nancy Gorczyca: AGE RELATIONSHIPS AND DEFORMATION HISTORY OF THE RATFIELD PLUTON, WEST RATFIELD, MASSACHUSETTS [133021] .....	Booth 1
William R. Brice*: ROUTE 30 - NEAR BREEZEWOOD, PENNSYLVANIA [133119] .....	Booth 2
Richard M. Liebe*, Thomas X. Grasso: THE DEVONIAN STRATIGRAPHY OF CHERRY VALLEY, N.Y. [132209] .....	Booth 3
August B. Simonsen*: CHESTERIAN FOSSIL SITE IN THE MAUCH CHUNK FORMATION CHALK HILL, PENNSYLVANIA [133110] .....	Booth 4
Sally Newcomb*: MINERAL HILL MINE: COPPER AND IRON MINERALS IN THE MARYLAND PIEDMONT [132204] .....	Booth 5
Robert C. Lord*: THE SUDBURY BASIN: A CLASSIC FIELD SITE FOR TEACHING EARTH SCIENCE IN THE NORTHEAST [133123] .....	Booth 6
Loretta L. Molitor*: MIOCENE STRATA AT CALVERT CLIFFS STATE PARK, MARYLAND [132205] .....	Booth 7
Lawrence R. Matson*: EDUCATIONAL ROADSIDE GEOLOGY SITE: STRUCTURAL GEOLOGY, STRATIGRAPHY AND GEOMORPHOLOGY AS DEMONSTRATED BY DEVONIAN, SILURIAN AND ORDOVICIAN STRATA NEAR KINGSTON, N.Y. [115381] .....	Booth 8
Gerald M. Friedman*: SPECTACULAR DOMED MICROBIAL MATS (CABBAGE HEADS) AND OOLITIC LIMESTONE AT LESTER PARK, NEAR SARATOGA, NEW YORK [133120] .....	Booth 9
James V. O'Connor*, Wallace R. White: GEOLOGICAL FOUNDATIONS ON MOUNT DESERT ISLAND, MAINE [133127] .....	Booth 10
John E. Way*: MULTIFACETED RADIAL FIELD APPROACH TO LOCAL GEOLOGY - FOCUS: SOUTH MOUNTAIN, CUMBERLAND COUNTY, PENNSYLVANIA [133116] .....	Booth 11

POSTER SESSION IV  
Kings Garden South, Pittsburgh Hilton,  
1400 hours - 1700 hours

Authors will be present from 1500 to 1700 hours

Philip Charles LaPorta*: PREHISTORIC RESOURCE ANALYSIS: FIELD OBSERVATIONS AND PETROGRAPHIC CHARACTERISTICS OF CAMBRIAN-ORDOVICIAN CHERT [118540] .....	Booth 1
L. J. Poppe*, R. F. Commeau: THE COMPOSITION AND ORIGIN OF FERRUGINOUS CONCRETIONS AT GAY HEAD, MASSACHUSETTS [130298] .....	Booth 2
Jessica M. Elzea*: SOME DIAGENETIC MINERALS, REACTIONS, AND TEXTURES IN THE NEW HAVEN ARKOSE, CONNECTICUT [128439] .....	Booth 3
Scott Argast*, Thomas W. Donnelly: CHEMICAL TRENDS IN SUITES OF SILICICLASTIC ROCK [121677] .....	Booth 4

Marie W. Schwartz*, Robert K. Schwartz: NORMAL AND INVERSE TEXTURAL GRADING IN BEACH AND WASHOVER SAND LAMINAE [115526] .....	Booth 5
Norman H. Gray, Catherine Lewis, Randolph P. Steinen*: BEDDING ORIENTATION DISTRIBUTIONS - A NEW SEDIMENTOLOGIC TOOL? [118393] .....	Booth 6
B. Ekwursel*: THE SEDIMENT DYNAMICS OF A COARSE-GRAINED TIDE-DOMINATED, BAY-SIDE BEACH: HERRING COVE, CAPE COD, MA [115181] .....	Booth 7
William M. Dowling*, Maurice Colpron, Barry L. Doolan: THE OAK HILL GROUP, SOUTHERN QUEBEC AND VERMONT: ALONG STRIKE VARIATIONS ACROSS A LATE-PRECAMBRIAN RIPT MARGIN [118337] .....	Booth 8
David F. Dominic*: QUANTITATIVE INTERPRETATION OF FLUVIAL SANDSTONES IN THE CASSELMAN AND PITTSBURGH FORMATIONS, UPPER PENNSYLVANIAN, WEST VIRGINIA [115765] .....	Booth 9
J. C. Boothroyd*: THE INTERACTION OF HUMAN AND GEOLOGIC PROCESSES ON A DEVELOPED BARRIER: CHARLESTOWN BEACH, RHODE ISLAND [118156] .....	Booth 10
E. Andrews*: CONTROLS ON IRON MINERALIZATION IN TWO CLINTON-TYPE SEDIMENTARY IRONSTONES IN THE KEEFER FORMATION (SILURIAN) OF CENTRAL PENNSYLVANIA [115468] .....	Booth 11
Edward Hinchey*, H. T. Mullins, A. C. Hine: SEISMIC REFLECTION PROFILES FROM NEW YORK'S FINGER LAKES: INITIAL RESULTS ON DEPTH TO BEDROCK AND LONGITUDINAL FACIES RELATIONSHIPS [133289] .....	Booth 12

## FRIDAY, MARCH 6, 1987

SYMPOSIUM: BOSTON BASIN AND ADJACENT AVALON TERRANE OF SOUTHEASTERN NEW ENGLAND  
Kings Garden North, Pittsburgh Hilton, 0800 hours

Anthony D. Socci, James W. Skehan, and Geoffrey Smith,  
Presiding

1 Nicholas Rast*, J. W. Skehan: LATE PROTEROZOIC GEOLOGICAL SETTING OF THE BOSTON BASIN [132695] .....	0800
2 R. Damian Wance*, Anthony D. Socci: LATE PRECAMBRIAN ARC-PLATFORM TRANSITIONS IN THE AVALON TERRANE OF THE NORTHERN APPALACHIANS [121647] .....	0830
3 Rudolph Hon*, Craig J. Smith, Martin E. Ross: BOSTON BASIN: AN ABORTED LATE PROTEROZOIC TRANSCURRENT RIPT [115058] .....	0900
4 Geoffrey W. Smith*, Anthony D. Socci: LATE PRECAMBRIAN SEDIMENTARY GEOLOGY OF THE BOSTON BASIN [128485] .....	0930
COFFEE BREAK .....	1000
5 Harold C. Stephens, Jr., Anthony D. Socci, Geoffrey W. Smith: LITHOFACIES ANALYSIS OF THE BOSTON BAY GROUP IN THE VICINITY OF SQUANTUM, MASSACHUSETTS [121649] .....	1015
6 Anthony D. Socci*, Geoffrey W. Smith, R. Damian Wance: EVIDENCE(?) FOR THE PRESENCE OF ICE IN THE BOSTON BASIN DURING THE LATE PRECAMBRIAN [128484] .....	1045
7 Margaret D. Thompson*: ASH-FLOW STRATIGRAPHY IN THE MATTAPAN VOLCANIC COMPLEX, GREATER BOSTON, MASSACHUSETTS [115062] .....	1115
DISCUSSION .....	1145

SYMPOSIUM: ABANDONED MINE LANDS--PROBLEMS AND SOLUTIONS  
Kings Garden South, Pittsburgh Hilton, 0900 hours

Richard E. Grey, Presiding

INTRODUCTION: Richard E. Grey .....	0900
1 Robert J. Turka*: DEWATERING A MINE POOL CREATED BY A BLOCKED DRAINAGE TUNNEL [131927] .....	0905
2 Steve R. Jones*: PNEUMATIC BACKFILLING - A METHOD FOR CONTROLLING ABANDONED MINE SUBSIDENCE [131929] .....	0930
COFFEE BREAK .....	1000
3 Frederick W. Tobias*, Angelo L. Masullo, Jr.: IDENTIFICATION AND REMEDIATION OF ATMOSPHERIC PROBLEMS WITHIN STRUCTURES CAUSED BY ABANDONED MINES [131924] .....	1015
4 Robert W. Bruhn*: CONTROL OF AN UNDERGROUND MINE FIRE IN PENNSYLVANIA'S ANTHRACITE REGION [131925] .....	1045
DISCUSSION .....	1115



**ARCHAEOLOGICAL GEOLOGY/QUATERNARY GEOLOGY**  
Ballroom #2, Pittsburgh Hilton, 0840 hours

Gerald B. Edwards and Robert W. Ridky, Presiding

- 1 David A. MacLean\*, David E. Putnam:  
PHYSICAL CHRONOLOGY OF THREE ARCHEOLOGICAL  
SITES ON THE KENNEBEC RIVER, BINGHAM/SOLON,  
MAINE [118218] ..... 0840
- 2 Maureen S. Whalen\*: RECONSTRUCTION OF THE  
LATE QUATERNARY PALEOGEOGRAPHY AND  
ARCHEOLOGICAL GEOLOGY AROUND ROQUE ISLAND,  
MAINE [133257] ..... 0900
- 3 Robert E. Behling\*: GEOLOGIC FACTORS  
AFFECTING FORMATION AND PERSISTENCE OF  
WETLANDS IN THE OPEN-FOLD REGION OF THE  
APPALACHIAN PLATEAUS IN WEST VIRGINIA AND  
MARYLAND [120409] ..... 0920
- 4 Robert W. Ridky\*: LAURENTIDE ICE SHEET  
DYNAMICS FROM AN ANALYSIS OF STREAMLINE  
GLACIAL LANDFORMS ON THE ONTARIO LOWLAND  
AND NORTHERN APPALACHIAN PLATEAU [133017] ..... 0940
- COFFEE BREAK ..... 1000
- 5 Susan-Marie Stedman\*: SEDIMENTOLOGY AND  
STRATIGRAPHY OF A HOLOCENE MARSH, DELAWARE  
[133192] ..... 1020
- 6 Catherine A. Coffin\*, Duncan M. Fitzgerald,  
Christopher T. Baldwin, Ralph S. Lewis:  
ORIGIN, REWORKING AND MORPHOLOGY OF  
HOLOCENE DEPOSITS AND LONG SAND SHOAL, LONG  
ISLAND SOUND [117955] ..... 1040
- 7 Peter C. Patton\*, Gregory S. Horne, Brendan G.  
Deyo, Simon E. Heart, Eric S. Howard:  
LATE HOLOCENE STRATIGRAPHY AND EVOLUTION OF  
THE CONNECTICUT RIVER ESTUARY [118379] ..... 1100
- 8 Gerald B. Edwards\*, Robert W. Oldale:  
LATE-QUATERNARY PALEODELTAS OF THE MERRIMACK  
RIVER, WESTERN GULF OF MAINE [130295] ..... 1120

**SEDIMENTARY PETROLOGY/MARINE GEOLOGY**  
Ballroom #4, Pittsburgh Hilton, 0800 hours

Charles McClennen and Bruce Selleck, Presiding

- 1 Susan Cupery, Bruce Selleck\*: DIAGENESIS AND  
CLAY MINERALOGY OF THE POTSDAM SANDSTONE IN  
NORTHWESTERN NEW YORK STATE [118736] ..... 0800
- 2 Frank G. Brockerhoff\*, Gerald M. Friedman:  
PALEODEPTH OF BURIAL OF MIDDLE OROVICIAN  
CHAZY GROUP CARBONATES IN NEW YORK AND  
VERMONT [133567] ..... 0820
- 3 Kenneth LaSota\*: THE RELATIONSHIP BETWEEN  
POROSITY AND SEDIMENTARY FACIES OF THE  
VENANGO GROUP (UPPER DEVONIAN) SANDSTONE  
UNITS OF SOUTHWESTERN PENNSYLVANIA [132027] ..... 0840
- 4 Richard Smosna\*: EARLY STAGES OF DIAGENESIS  
(LOW TEMPERATURE, LOW PRESSURE) IN  
CRETACEOUS SANDSTONES, ALASKAN NORTH SLOPE  
[129763] ..... 0900
- 5 Christopher D. Laughrey\*: MESOGENETIC  
HEMATITE CEMENTS IN SANDSTONES: TWO EXAMPLES  
FROM THE SUBSURFACE OF W. PA [119505] ..... 0920
- COFFEE BREAK ..... 0940
- 6 Vicki A. Pedone\*, Karen Rose Cercone:  
ULTRAVIOLET AND BLUE-LIGHT FLUORESCENCE OF  
MODERN CARBONATES: A COMPARATIVE STUDY  
[119469] ..... 1000
- 7 R. Craig Shipp\*: THE LATE QUATERNARY  
EVOLUTION OF TWO ADJACENT RIVERS ALONG THE  
MAINE COAST: A COMPARISON BETWEEN THE  
MARINE DAMARISCOTTA ESTUARY AND THE  
TERRESTRIAL PEMAQUID RIVER [118242] ..... 1020
- 8 Bradley W.B. Hay\*: HOLOCENE SEDIMENT BUDGET  
AS A COMPONENT IN EMBAYMENT EVOLUTION OF A  
GLACIALLY-SCULPTED EMBAYMENT IN MAINE  
[118239] ..... 1040
- 9 Charles E. McClennen\*: LATE GLACIAL AND  
HOLOCENE SEDIMENT PATTERNS ON 3.5 kHz  
SEISMIC PROFILES: GULF OF MAINE [118737] ..... 1100
- 10 Mohd R. Muhammad-Som\*, Duncan M. Fitzgerald,  
C. T. Baldwin: BACKBARRIER STRATIGRAPHY  
ALONG A GLACIATED COAST: CASTLE NECK, MA  
[117953] ..... 1120
- 11 Michael J. Chrzastowski\*, John C. Kraft,  
Susan M. Stedman: COASTAL DELAWARE SEA-LEVEL  
RISE BASED ON MARSH MUD ACCUMULATION RATES  
BY Pb-210 DATING [133403] ..... 1140

**HYDROGEOLOGY II**

Ballroom #3, Pittsburgh Hilton, 0820 hours

Henry W. Rauch and Jack Felbinger, Presiding

- 1 Martha S. Snow\*: CONTAMINATION OF A SAND AND  
GRAVEL AQUIFER AND PRIVATE WELLS:  
HYDROGEOLOGIC ASSESSMENT, REMEDIAL ACTIONS,  
AND A GEOLOGIC "WHODUNIT" [129840] ..... 0820
- 2 Cedwyn Morgan\*, Jon Witten: COMPREHENSIVE  
GROUNDWATER DEVELOPMENT AND PROTECTION  
STRATEGY FOR URBANIZING AREAS: A CASE STUDY  
IN WALPOLE, MASSACHUSETTS [129838] ..... 0840
- 3 Suzanne Wall Porter\*, Denis D'Amore:  
CHARACTERIZATION OF GROUNDWATER DISCHARGE  
WITHIN SELECT REACHES OF THE NEPONSET RIVER  
AND TWO TRIBUTARY STREAMS; NORWOOD,  
WESTWOOD AND CANTON, MASSACHUSETTS [130340] .... 0900
- 4 Gregory E. Tiegan, Henry W. Rauch\*:  
DEWATERING EFFECTS AT TWO UNDERGROUND  
LONGWALL COAL MINES IN THE PITTSBURGH SEAM  
IN WEST VIRGINIA AND PENNSYLVANIA [115768] ..... 0920
- COFFEE BREAK ..... 0940
- 5 Christopher A. Shuman\*, Richard R. Parizek:  
FRACTURE STUDIES AND SPATIAL PERMEABILITY  
TESTING IN A PENNSYLVANIA SURFACE COAL MINE  
[115505] ..... 1000
- 6 Eberhard Werner\*, John C. Hempel: EFFECTS OF  
COAL MINE SUBSIDENCE ON SHALLOW RIDGE-TOP  
AQUIFERS IN NORTHERN WEST VIRGINIA [119503] .... 1020
- 7 John E. Williams\*, Kenn L. Pattison: EFFECT  
OF RECHARGE ON GROUND-WATER QUALITY IN  
PYRITIC MINE SPOIL, NORTHERN APPALACHIAN  
COAL BASIN [132147] ..... 1040

**POSTER SESSION V**

Le Bateau, Pittsburgh Hilton, 0900 hours - 1200 hours

Authors will be present from 1000 to 1200 hours

- Charles H. Shultz\*, Reginald P. Briggs\*: "THE  
GEOLOGY OF PENNSYLVANIA" PROJECT--SCOPE,  
PROBLEMS, PROGRESS [119332] ..... Booth 1
- J. Gregory McHone\*: APL MICROCOMPUTER  
APPLICATIONS IN MINERALOGY AND PETROLOGY  
[121313] ..... Booth 2
- M. S. Rutstein\*, F. W. Vollmer: THE MARMORA,  
ONTARIO SKARN DEPOSIT [115374] ..... Booth 3
- Frank A. Revetta, Virginia Marks\*, Jon Klink:  
ON THE USE OF A MINI SEISMIC NETWORK IN  
TEACHING, RESEARCH AND PUBLIC SERVICE  
[115408] ..... Booth 4
- Michael S. Fenster\*, Duncan M. Fitzgerald,  
Christopher T. Baldwin: BEDFORM HIERARCHY OF  
THE LOWER KENNEBEC RIVER ESTUARY, ME [132547] .. Booth 5
- Daniel F. Belknap\*, Joseph T. Kelley:  
SUBMERSIBLE OBSERVATIONS IN COASTAL MAINE:  
COMPARISON WITH SEISMIC DATA AND GRAB  
SAMPLES [118240] ..... Booth 6
- Victor P. Tollerton, Jr.\*: TAXONOMY AND  
CLASSIFICATION OF EURYPTERIDS: PARADOXES AND  
SOLUTION [118720] ..... Booth 7
- Victor P. Tollerton, Jr.\*: DISTORTION IN  
EURYPTERIDS: CRITERIA FOR RECOGNITION AND ITS  
TAXONOMIC SIGNIFICANCE [118721] ..... Booth 8
- Robert Metz\*: EPHERMERAL PUDDLES: THE "IN  
PLACE" TO OBSERVE RECENT TRACES [115152] ..... Booth 9
- Howard R. Feldman\*, C. Delcastillo-Castaneda,  
Andrea Dowell, Adam Mallin, Kim McIver, Judith  
Wides: BRACHIOPOD LIFE STRATEGIES AND  
ONTOGENETIC DEVELOPMENT: EXAMPLES FROM THE  
JURASSIC AND DEVONIAN [129650] ..... Booth 10
- Rosario Agostaro\*, Russell E. Waines: A TYPICAL  
GROWTH FORM IN LAMINAR STROMATOPOROID  
COENOSTEA, GLASCO LIMESTONE MEMBER, RONDOUT  
FORMATION (LATEST SILURIAN), KINGSTON,  
SOUTHEASTERN NEW YORK [118823] ..... Booth 11
- SYMPOSIUM: BOSTON BASIN AND ADJACENT AVALON TERRANE OF  
SOUTHEASTERN NEW ENGLAND**  
Kings Garden North, Pittsburgh Hilton, 1330 hours
- Anthony D. Socci, James W. Skehan, and Geoffrey Smith,  
Presiding
- 1 K. Durfee Cardoza\*, J. C. Hepburn, R. Hon:  
GEOCHEMISTRY OF THE BRIGHTON VOLCANICS,  
BOSTON BASIN, EASTERN MASSACHUSETTS  
[115055] ..... 1330

2 R. H. Bailey*, K. G. Galli: PETROGENESIS OF PRECAMBRIAN AND CAMBRIAN SANDSTONES: AVALONIAN ROCKS OF NORTHEASTERN MASSACHUSETTS [118030] .....	1400
3 D. P. Murray*, O. D. Hermes: A PRELIMINARY ASSESSMENT OF THE TECTONIC SETTING OF THE NEW BEDFORD AREA [115080] .....	1430
4 James W. Skehan*, Nicholas Rast: STRUCTURAL EVOLUTION OF PRE-CARBONIFEROUS ROCKS OF THE NARRAGANSETT BAY AREA, RHODE ISLAND [132963] .....	1500
5 O. D. Hermes*, D. P. Murray: GEOCHEMICAL DISTINCTIONS BETWEEN LATE PROTEROZOIC AND PALEOZOIC FELSIC VOLCANISM IN THE NEW ENGLAND AVALON [115081] .....	1530
6 R. P. Wintsch*, J. R. Webster, J. A. Bernitz, J. S. Pout: SUBDIVISION OF ROPE FERRY GNEISS, AVALON TERRANE, AND STRUCTURAL IMPLICATIONS [133373] .....	1600
7 M. S. Andrews*, C. P. Ambers, R. P. Wintsch: EVIDENCE AGAINST THE CORRELATION OF THE HUNT'S BROOK SCHIST WITH PELITIC ROCKS OF THE PUTNAM-NASHOBA TERRANE [128438] .....	1630
DISCUSSION .....	1700

**SYMPOSIUM: THE HYDRODYNAMICS AND SEDIMENTOLOGY OF A BACK-BARRIER LAGOON - SALT MARSH SYSTEM, GREAT SOUND, NEW JERSEY**

Ballroom #3, Pittsburgh Hilton, 1330 hours

Gail M. Ashley and Robert B. Abel, Presiding

**INTRODUCTORY REMARKS: Gail M. Ashley .....**

1 Frederick S. Schuepfer, Jerry P. Lennon*, Richard W. Weisman: A HYDRODYNAMIC MODEL OF THE GREAT SOUND INLET-CHANNEL-LAGOON SYSTEM [130180] .....	1340
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2 Gail M. Ashley*, Marjorie L. Seff: TIDAL CHANNEL CLASSIFICATION FOR A LOW-MESOTIDAL SALT MARSH [130190] .....	1400
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3 Marjorie L. Seff*: SEDIMENTATION IN A TIDAL CHANNEL SYSTEM, GREAT SOUND MARSH, NJ [130186] .....	1420
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**GENERAL DISCUSSION .....**

4 Gail M. Ashley*, Raymond E. Grizzle: HYDRODYNAMICS AND SEDIMENTATION IN A TIDE-DOMINATED BACK-BARRIER LAGOON [130182] ....	1500
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5 Bobb Carson*, Andrew J. Meglis, Wendy E. Griffiths, Keith F. Carney: SUSPENSATE AGGREGATION IN THE COASTAL LAGOON COMPLEX AT STONE HARBOR, NEW JERSEY: IMPLICATIONS FOR DETRITAL TRANSPORT AND DEPOSITION [119252] .....	1520
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6 Craig L. Young, Richard W. Weisman*, Gerard P. Lennon: MODELING DEPOSITION OF TIDAL CHANNEL SUSPENSATE IN GREAT SOUND, NEW JERSEY [130179] .	1540
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**DISCUSSION AND COFFEE BREAK .....**

7 Richard W. Faas*, Bobb Carson: SHORT-TERM DEPOSITION AND MODERN ACCUMULATION OF SEDIMENT IN GREAT SOUND, NEW JERSEY [119259] .....	1620
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8 J. E. Nadeau*, M. J. Hall: SEDIMENT SOURCE, FLUX, AND FATE BASED ON TRACE METAL DISTRIBUTION, GREAT SOUND, NEW JERSEY [130043] .....	1640
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9 Susan D. Halsey*: APPLICATION OF THE GREAT SOUND, NJ PROCESS MODEL TO MANAGEMENT OF BACK-BARRIER ENVIRONMENTS [129481] .....	1700
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**GENERAL DISCUSSION .....**

**STRATIGRAPHY/PALAEONTOLOGY**

Kings Garden South, Pittsburgh Hilton, 1330 hours

Thomas Wolosz and Ed Landing, Presiding

1 Ed Landing*, Guy M. Marbonne, Alison P. Benus, Paul Myrow: ETCHEMINIAN--LOWEST CAMBRIAN SERIES IN AVALON [128094] .....	1330
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2 Lucy E. Harding*, Ebbe Hartz: CAMBRIAN AND PRECAMBRIAN(?) STRATIGRAPHY ALONG THE GREEN MOUNTAINS FRONT, WESTERN VERMONT [129340] .....	1350
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3 David Lehmann*, John K. Pope: TIDAL FLAT AND SHALLOW SUBTIDAL FAUNA FROM THE UPPER ORDOVICIAN, MARTINSBURG FORMATION, SWATARA GAP, LEBANON COUNTY, PENNSYLVANIA [128760] .....	1410
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4 Carlton E. Brett, William Goodman*: CORRELATIVE SEDIMENTARY CYCLES IN THE MEDIAL SILURIAN UPPER CLINTON GROUP OF NEW YORK STATE [118601] .....	1430
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5 Denis K. Tetreault*: SILURIAN (WENLOCKIAN) TRILOBITE ASSOCIATIONS OF WESTERN NEW YORK AND SOUTHERN ONTARIO [115260] .....	1450
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**COFFEE BREAK .....**

6 Brian V. Fetterhoff*, Russell E. Waines: STRATIGRAPHIC SIGNIFICANCE OF A HALYSITID TABULATE CORAL IN THE WHITEPORT MEMBER OF THE RONDOUT FORMATION (LATEST SILURIAN), TOWN OF ESOPUS, ULSTER COUNTY, SOUTHEASTERN NEW YORK [118821] .....	1530
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7 E. J. Anderson*, Peter W. Goodwin: SEDIMENTOLOGIC AND STRATIGRAPHIC DISCONTINUITIES, HELDERBERG GROUP, CENTRAL APPALACHIANS [119201] .....	1550
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8 Douglas E. Paquette, Thomas H. Wolosz*: MT. TOM REEPS #'S 1, 2 & 6 - A POSSIBLE EROSIONAL REMNANT OF AN EDGECLIFF PINNACLE REEF (MID. DEVONIAN, ONONDAGA FORMATION OF NEW YORK) [128079] .....	1610
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9 William F. Outerbridge*: REGIONAL SIGNIFICANCE OF THE FLINT CLAY ZONE IN THE UPPER PART OF THE MIDDLE PENNSYLVANIAN SERIES OF THE CENTRAL APPALACHIAN BASIN [128502] .....	1630
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10 Roger J. Cuffey*: FISTULIPOROID BINDSTONE, A NEWLY DISCOVERED MAJOR TYPE OF BRYOZOAN REEF-ROCK IN THE WEST TEXAS PERMIAN, AND COMPARISON WITH NORTHEASTERN PALEOZOIC BRYOZOAN REEFS [128212] .....	1650
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**STRUCTURAL GEOLOGY I**

Ballroom #2, Pittsburgh Hilton, 1330 hours

Arthur E. Burford and Robert D. Jacobs, Presiding

1 Mark R. Myman*: STRUCTURAL STYLES AT THE SOUTH END OF THE LONG RANGE INLIER, WESTERN NEWFOUNDLAND, CANADA [118338] .....	1330
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2 Debra A. Sneek*, R. Damian Nance: CONFIRMATION OF DEXTRAL TRANSPRESSION IN THE LATE CARBONIFEROUS FOLD-THRUST BELT OF SOUTHERN NEW BRUNSWICK [128490] .....	1350
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3 Arthur E. Burford*, Paul S. Wingard: RELATIONS OF REMOTE SENSING LINEARS, METASEDIMENTARY AND METAVOLCANIC ROCKS, GRANITIC INTRUSIVES, AND APLITIC AND MAFIC DIKES OF THE BLUE HILL AREA OF MAINE [133490] .....	1410
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4 Margaret E. Coleman*, J. Murray Journeay: KINEMATIC INTERPRETATION OF THE PINNEY HOLLOW SHEAR ZONE, WEST-CENTRAL VERMONT [118296] .....	1430
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5 Jean Crespi*, Tim Byrne: STRAIN PARTITIONING AND FOLD KINEMATICS IN THE GIDDINGS BROOK SLICE, TACONIC ALLOCHTHON, WEST-CENTRAL VERMONT [130883] .....	1510
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6 Bruce M. Genereaux*, J. Murray Journeay, Thornton M. Tyson: DEFORMATION AND REGIONAL METAMORPHISM OF ALLOCHTHONOUS COVER ROCKS ALONG THE SE FLANK OF THE LINCOLN MASSIF [118289] .....	1530
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7 Robert D. Jacobi*, David Scheuing: DUNNAGE MELANGE REVISITED: A DETAILED STRUCTURAL/STRATIGRAPHIC SECTION ACROSS ITS NORTHEASTERN TERMINATION [133692] .....	1550
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**COFFEE BREAK .....**

5 Jean Crespi*, Tim Byrne: STRAIN PARTITIONING AND FOLD KINEMATICS IN THE GIDDINGS BROOK SLICE, TACONIC ALLOCHTHON, WEST-CENTRAL VERMONT [130883] .....	1510
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6 Bruce M. Genereaux*, J. Murray Journeay, Thornton M. Tyson: DEFORMATION AND REGIONAL METAMORPHISM OF ALLOCHTHONOUS COVER ROCKS ALONG THE SE FLANK OF THE LINCOLN MASSIF [118289] .....	1530
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7 Robert D. Jacobi*, David Scheuing: DUNNAGE MELANGE REVISITED: A DETAILED STRUCTURAL/STRATIGRAPHIC SECTION ACROSS ITS NORTHEASTERN TERMINATION [133692] .....	1550
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**GEOCHEMISTRY/GEOPHYSICS**

Ballroom #4, Pittsburgh Hilton, 1330 hours

John Aleinikoff and Thomas Wilson, Presiding

1 John N. Aleinikoff*, Robert E. Moench: U-Pb GEOCHRONOLOGY AND Pb ISOTOPIC SYSTEMATICS OF PLUTONIC ROCKS IN NORTHERN NEW HAMPSHIRE: ENSIMATIC VS. ENSIALIC SOURCES [126690] .....	1330
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2 Douglas R. Knight*, Henri E. Gaudette: Rb-Sr AGE OF THE WALDOBORO TWO MICA GRANITE, COASTAL MAINE [129602] .....	1350
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3 Lawrence D. Strobl, Robert B. Thomas, Paul S. Wingard, Lindgren L. Chyi*: CHARACTERISTICS OF REE ASSOCIATED WITH THE LONG ISLAND GRANITE, BLUE HILL, MAINE [128779] .....	1410
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## SATURDAY, MARCH 7, 1987

SYMPOSIUM: PALYNOLOGY IN THE NORTHEAST  
Ballroom #3, Pittsburgh Hilton, 0800 hours

J. Richard Jones, Presiding

- 1 William D. Wood, Jr.\*: SPORES FROM THE LATE DEVONIAN-EARLY MISSISSIPPIAN ROCKWELL FORMATION OF NORTHWESTERN MARYLAND [131981] .... 0800
- 2 J. Richard Jones\*, H. B. Rollins, B. W. Cameron: A CHRONOSTRATIGRAPHIC FRAMEWORK FOR THE POLLEN AND CORE STRATIGRAPHY AT PLUM ISLAND, MASSACHUSETTS [131994] ..... 0830
- 3 J.F.P. Cotter\*, E. B. Evenson, Les Sirkin, R. Stuckenrath: THE STRATIGRAPHIC SIGNIFICANCE OF THE LATE GLACIAL POLLEN RECORD OF THE NORTHEAST [122340] ..... 0900
- COFFEE BREAK ..... 0930
- 4 Les Sirkin\*: PALYNOLOGY OF LATE QUATERNARY SEDIMENTS IN THE GLACIATED AND ADJACENT UNGLACIATED REGIONS, SOUTHERN NEW ENGLAND AND NEW YORK [118943] ..... 1000
- 5 Jennifer D. Toney\*, Peter C. Patton: POLLEN STRATIGRAPHY AND HISTORIC SEDIMENT STORAGE IN THE CONNECTICUT RIVER ESTUARY [118380] ..... 1030
- DISCUSSION ..... 1100

### STRUCTURAL GEOLOGY II

Ballroom #4, Pittsburgh Hilton, 0820 hours

Thomas Anderson and Stuart L. Dean, Presiding

- 1 Bruce D. Taterka\*: BEDROCK GEOLOGY OF CENTRAL PARK, NEW YORK CITY [132643] ..... 0820
- 2 Bart J. Lamport, David W. Valentino\*: DEFORMATIONAL RELATIONSHIPS IN GRANODIORITIC GNEISS OF SPRINGFIELD, DELAWARE CO., S.E. PA [115440] ..... 0840
- 3 Richard P. Nickelsen\*: STRUCTURAL EVOLUTION OF FOLDED THRUSTS AND DUPLEXES ON A FIRST ORDER ANTICLINORIUM IN THE VALLEY AND RIDGE PROVINCE OF PENNSYLVANIA [115465] ..... 0900
- 4 Paul T. Ryberg\*: CLEAVAGE-INTENSIFICATION DOMAINS IN THE MARTINSBURG FORMATION NEAR SLATINGTON, PENNSYLVANIA [118833] ..... 0920
- COFFEE BREAK ..... 0940
- 5 Gale C. Blackmer\*, Hue-Chung Chou: STRAIN ANALYSIS ON FOSSILS FROM A COAL MINE ON THE APPALACHIAN PLATEAU, PENNSYLVANIA [128179] ..... 1000
- 6 Stuart L. Dean\*, Andrew Rucinski, Jr., Patrick J. Heider, Byron R. Kulanter, Peter Lessing: GEOLOGY OF THE ADAMS RUN ANTICLINE, HARDY COUNTY, WEST VIRGINIA [116194] ..... 1020
- 7 J. Dykstra Eusden, Jr.\*, John B. Lyons, Wallace A. Bothner, Eugene L. Boudette: MAJOR FOLD STRUCTURES IN THE "MERRIMACK SYNCLINORIUM" [129367] ..... 1040
- 8 Norman H. Gray\*, James H. Bowen: A TECHNIQUE FOR ROUTINE NEAREST NEIGHBOR CENTER TO CENTER STRAIN ANALYSIS [118394] ..... 1100

### GEOMORPHOLOGY/GENERAL GEOLOGY/GEOLOGICAL EDUCATION/ HISTORY OF GEOLOGY

Ballroom #2, Pittsburgh Hilton, 0820 hours

Michael P. Wilson and Joseph T. Kelley, Presiding

- 1 Michael P. Wilson\*: GROWTH AND DECAY OF WINTER ICE COVER ON A STREAM [115296] ..... 0820
- 2 D. W. Caldwell\*, George F. Hanson: EFFECTS OF A TWO-HOUR, 6-INCH RAINFALL IN THE COLD RIVER WATERSHED, SOUTHWESTERN NEW HAMPSHIRE [115034] ..... 0840
- 3 Rebecca V. Smith\*, Daniel F. Belknap, Joseph T. Kelley: THE ROLE OF BLUFF EROSION AND SEDIMENT RECYCLING IN SHAPING MAINE'S COASTLINE [127655] ..... 0900
- 4 William Duffy\*: COARSE BARRIER BEACH - LAGOON ENVIRONMENTS OF MAINE [127656] ..... 0920
- 5 Joseph A. Walsh\*, Joseph T. Kelley: THE LATEST HOLOCENE EVOLUTION OF THE LUBEC EMBAYMENT [118249] ..... 0940
- COFFEE BREAK ..... 1000

- 4 Katrin Hafner-Douglass\*: METAVOLCANIC ROCKS OF THE PERMONT ALLOCTHON AND ASSOCIATED METADIABASE DIKES, GARDNER MOUNTAIN AREA, NORTHWESTERN NEW HAMPSHIRE [129369] ..... 1430
- 5 Gerhard W. Leo\*, J. Steven Mee: VOLCANOGENIC GNEISS AND AMPHIBOLITE IN THE EARLY PALEOZOIC BRISTOL, COLLINSVILLE, AND SHELburne FALLS DOMES, WESTERN CONNECTICUT AND MASSACHUSETTS [130887] ..... 1450
- COFFEE BREAK ..... 1510
- 6 David Mackie\*: GEOCHEMICAL EXPLORATION OF THE WALDEN PEGMATITE, PORTLAND, CONNECTICUT [115126] ..... 1530
- 7 Karla M. Auker, Arthur E. Burford, Robert G. Corbett\*: SYSTEMATIC VARIATION IN BRINE COMPOSITION OF THE NORTHEAST PLANK OF THE APPALACHIAN BASIN [128777] ..... 1550
- 8 John A. Izbicki\*: MAPPING LITHOLOGY OF STRATIFIED DRIFT AQUIFERS IN MASSACHUSETTS USING THE VERY LOW FREQUENCY RADIO WAVE EARTH RESISTIVITY ELECTROMAGNETIC METHOD [133310] ..... 1610
- 9 Robert E. Morency, Jr.\*: THE GEOPHYSICAL EXPRESSION OF STRUCTURES BETWEEN THE CLINTON-NEWBURY AND BLOODY BLUFF FAULT ZONES NEAR NEWBURY, MASSACHUSETTS [132024] ..... 1630
- 10 Thomas H. Wilson\*: GEOPHYSICAL INTERPRETATION OF SUBSURFACE CAMBRIAN-ORDOVICIAN STRUCTURE: VALLEY AND RIDGE PROVINCE, WEST VIRGINIA [133723] ..... 1650
- 11 Lawrence A. Park, Donald F. Palmer\*: CRUSTAL STRUCTURE OF EAST CENTRAL TENNESSEE FROM ANALYSIS OF MAGNETIC AND GRAVITY ANOMALIES OF THE EAST CONTINENT GRAVITY HIGH [130366] .... 1710

### POSTER SESSION VI

Le Bateau, Pittsburgh Hilton, 1400 hours - 1700 hours

Authors will be present from 1500 to 1700 hours

- Brenda S. Pierce\*, Ronald W. Stanton: COMPOSITIONAL VARIATION OF THE LOWER FREEPORT COAL BED, ALLEGHENY FORMATION, WEST-CENTRAL PENNSYLVANIA [130897] ..... Booth 1
- Paul C. Lyons\*: RANK AND COALIFICATION PATTERNS OF BITUMINOUS COAL BEDS IN THE COAL FIELDS OF WESTERN MARYLAND [129012] ..... Booth 2
- Jeffrey P. Miller\*, Frederic R. Siegel: SUCCESSFUL APPLICATION OF VERY LOW FREQUENCY ELECTROMAGNETIC METHODS TO EXPLORATION FOR PODIFORM CHROMITE DEPOSITS, SOLDIERS DELIGHT DISTRICT, MARYLAND [126585] ..... Booth 3
- Jeffrey P. Miller\*: TECTONIC ORIGIN OF PODIFORM CHROMITE MINERALIZATION IN THE SOLDIERS DELIGHT DISTRICT, MARYLAND [126586] ..... Booth 4
- Jon D. Inners\*, Duane D. Braun, J. Peter Wilshusen: GEOLOGIC AND HYDROLOGIC CONTROLS OF A ROCK SLIDE ON I-81 NEAR NANTICOKE, LUZERNE COUNTY, PENNSYLVANIA [119341] ..... Booth 5
- Marilyn A. Plitnik\*, Ramesh J. Shah: SEDIMENTOLOGICAL RELATIONSHIP BETWEEN CHANNEL DEPOSITS AND CONTAMINANT MIGRATION AT A HAZARDOUS WASTE SITE [127318] ..... Booth 6
- Peter Dillon\*, Rudolph Hon: HIGH VOLUME AIR SAMPLING OF RADIOACTIVE FALLOUT FROM THE CHERNOBYL NUCLEAR ACCIDENT, EASTERN MASSACHUSETTS [127532] ..... Booth 7
- Stephen M. Dickson\*, Joseph T. Kelley: COASTAL HAZARDS AND GEOLOGIC MAPPING OF MAINE'S BEACHES AND BARRIER ISLANDS [118251] ..... Booth 8
- Michael F. Weber\*: USING ALARA TO DETERMINE "HOW CLEAN IS CLEAN" IN GROUND-WATER RESTORATION PROJECTS [129872] ..... Booth 9
- Alistair P.T. Macdonald\*, Yoram Eckstein: HYDROGEOLOGIC PARAMETERS FOR ZONING IN A SUBURBAN RURAL ENVIRONMENT [116175] ..... Booth 10
- Edward J. Kossalka\*: DRUMS ALONG THE NIAGARA--A CASE STUDY OF NONPOINT SOURCES OF CONTAMINATION OF A GROUND-WATER SYSTEM [129378] ..... Booth 11
- Robert W. King\*, Barry B. Miller, Peter S. Dahl: AN INVESTIGATION OF CATION RETENTION IN A NE OHIO PEN [130372] ..... Booth 12

6 Joseph T. Kelley*, Daniel F. Belknap, Mark Wood: CLASSIFICATION AND ORIGIN OF SALT MARSHES ON THE NORTHERN NEW ENGLAND COAST [118250] .....	1020
7 Robert C. Shumaker*: POSSIBLE CONNECTION BETWEEN MICHIGAN BASIN AND APPALACHIAN BASIN STRUCTURE ACROSS THE CHATHAM SAG [133722] .....	1040
8 Stanley Schleifer, Arthur P. Loring*: THE NATURAL CEMENT AREA, ROSENDALE, N.Y., AS A FIELD TRIP SITE [118953] .....	1100
9 Donald M. Hoskins*: WILLIAM DARBY'S FORGOTTEN GEOLOGY [119344] .....	1120
10 Samuel T. Pees*: ANTEBELLUM IRON ORE MINING ALONG THE FRINGE OF THE COAL MEASURES IN NORTHWEST PENNSYLVANIA [129338] .....	1140

**COAL/ECONOMIC GEOLOGY/ ENGINEERING GEOLOGY**  
Ballroom #1, Pittsburgh Hilton, 0820 hours

Edward S. Belt and Maurice Deuhl, Presiding

1 David K. Brezinski, Carla A. Kertis*: DEPOSITIONAL ENVIRONMENT OF SOME LATE DEVONIAN AND EARLY MISSISSIPPIAN COALS OF THE NORTH-CENTRAL APPALACHIAN BASIN [131978] .....	0820
2 Edward S. Belt*, Paul C. Lyons: MIDDLE AND LATE PENNSYLVANIAN FLUVIAL CHANNEL-COMPLEX DEPOSITS AND THEIR LATERAL FACIES IN THE MARYLAND COAL FIELDS AND ADJACENT AREAS [130899] .....	0840
3 Richard B. Winston*, R. W. Stanton: PALEOECOLOGICAL ANALYSIS OF A COLUMNAR SAMPLE FROM THE UPPER FREEPORT COAL BED, ALLEGHENY FORMATION (PENNSYLVANIAN), WEST-CENTRAL PENNSYLVANIA [127812] .....	0900
4 Otto C. Kopp*, Lawrence A. Harris: MULTIPLE COALIFICATION PATHS? EVIDENCE FROM THERMOGRAVIMETRY AND H/C AND O/C RATIOS [116043] .....	0920
5 Curtis A. Palmer*, Paul C. Lyons, Zoe Ann Brown: ASSOCIATION OF BROMINE WITH VITRINS FROM COAL BEDS OF EASTERN UNITED STATES AND ENGLAND [130875] .....	0940
COFFEE BREAK .....	1000
6 John J. Jansky*, Leonard J. Prosser: MINES AND MINERALS OF THE NORTHEAST [115405] .....	1020
7 Kevin D. Svitana*: A PALEODEPOSITIONAL AND ECONOMIC EVALUATION OF THE UPPER DEVONIAN SAXTON CONGLOMERATE [129311] .....	1040
8 Robert J. Illes*, Abdul Shakoor: A GEOTECHNICAL EVALUATION OF ABANDONED STRIP MINES FOR SANITARY LANDFILL PURPOSES [130377] .....	1100

9 Alexander G. Taft*, Abdul Shakoor: SUITABILITY OF ASH RESIDUE FROM SOLID WASTE INCINERATION AS A CONSTRUCTION MATERIAL [130376] .....	1120
10 Linda L. Schultz*, Cedwyn Morgan: HYDROGEOLOGIC STUDY AND REMEDIAL ACTION FOR A HYDROCARBON RELEASE IN A SAND AND GRAVEL AQUIFER ON CAPE COD, MASS. [129834] .....	1140

**POSTER SESSION VII**

Le Bateau, Pittsburgh Hilton, 0900 hours - 1200 hours

Authors will be present from 1000 to 1200 hours

James F. Villaume, Dennis F. Unites*, Laurence R. Lew: POST GLACIAL EVOLUTION OF SURFICIAL GEOLOGY IN WASHINGTONVILLE, PENNSYLVANIA [133678] .....	Booth 1
W. D. Sevon*, Glenn H. Thompson, Jr.: EROSION OF HOLTWOOD GORGE, SOUTHWESTERN LANCASTER COUNTY, PENNSYLVANIA [119336] .....	Booth 2
Gregory S. Horne*, Elizabeth M. Barnett: THE EFFECT OF FORESHORE MORPHOLOGY AND SUBSTRATE ON STORM EROSION ALONG GRISWOLD POINT, A SOUND-PROTECTED SPIT AT THE MOUTH OF THE CONNECTICUT RIVER [118382] .....	Booth 3
Elizabeth D. Cron*: EARTH SLUMPS AND FLOWS IN THE CIRCLEVILLE AND ONEGO QUADRANGLES, WEST VIRGINIA: USE OF A GEOGRAPHIC INFORMATION SYSTEM FOR ANALYSIS [130878] .....	Booth 4
David R. Soller*: A THREE-DIMENSIONAL PERSPECTIVE OF QUATERNARY SEDIMENTS IN THE GLACIATED NORTHEASTERN UNITED STATES [130876] ..	Booth 5
Amy von Schondorf*, Gail M. Ashley: SEDIMENTARY FACIES AND PALEOHYDRAULICS OF AN ICE-CONTACT GLACIAL OUTWASH PLAIN, GERMANY FLATS, NEW JERSEY [130181] .....	Booth 6
Claudette M. Simard*, J. Steven Kite: GEOLOGIC HISTORY OF TWO LOWER TERRACES IN THE UPPER OHIO RIVER VALLEY [120401] .....	Booth 7
William A. Newman, Richard C. Berg*, Peter S. Rosen, Herbert D. Glass: PLEISTOCENE STRATIGRAPHY OF THE BOSTON HARBOR DRUMLINS, BOSTON, MASSACHUSETTS [118029] .....	Booth 8
Margaret T. Alling*, John B. Reid, Jr., P. Davis: LICHENOMETRIC DATING OF DEBRIS FLOW LEVEES, PANGNIRTUNG PASS, BAFFIN ISLAND: A PROXY PALEOCLIMATIC RECORD? [115017] .....	Booth 9
Edgar M. Hopkins*: PALEOGEOGRAPHY OF THE UPPER DEVONIAN OIL SANDS OF PENNSYLVANIA [132680] ....	Booth 10