SHIPS. THIS IS IN CONTRAST TO TECTONIC INTERPRETATIONS BASED ON EVIDENCE FROM MAINE, WHICH INVOKES AN EAS-TOOLED SUBDUCTION ZONE BELOW A CARPETED AVATAN TERRANE.

18-4 BTH 11 Short, Heather
STRAIN PARTITIONING IN A TRANSPRESSIVE ORGENE, CENTRAL COASTAL MAINE
Short, Heather and Kohler, John; Department of Geologic Sciences, Univ of Maine, Orono, ME 04469. heather.short@umit.maine.edu and KOLLMAN, Scott, Department of Geological Sciences, Univ of Maine, Orono, ME 04469.
Recent field, microstructural and chronologic studies of Silurian- and pre-Silurian rocks in the area near Waterville provide evidence for the presence of intra-plate delamination of the Central Maine shear zone which can be compared to the Sulawesi structural system. This shear zone is a high shear zone and has been compared to the Central Range of the Himalayas. The zone is characterized by a number of key structural features, including a prominent south-trending fault, a complex system of folds and faults, and a significant amount of north-south extension.

18-5 BTH 12 Eastler, Thomas E.
WHERE IN MAINE IS THE DOG BAY LINE?
EASTLER, Thomas E., REUSCH, Douglas N., and GIBSON, David, Natural Sciences Univ, Univ of Maine at Orono, 282 High Street, Farmington, ME 04938. eastler@maine.edu
An Acadian suture has been difficult to pinpoint in the Northern Appalachian orogen. Recognized in 1990, the Dog Bay Line is a significant boundary within the Newfoundland Exposubzone that separates a Silurian sequence linked to Laurentia from a contrasting Silurian sequence to the southeast (Williams et al., 1993). North of the line, Ordovician through Lower Silurian bivalves and brachiopods are prevalent (Badger Group) undifferentiated terrestrial volcanic rocks and sandstones (Bovina Group). To the southeast, shallow marine shales and limestones are not uncommon. Sandstones are a prominent component of the Badger Group. Structures along the line indicate that the sequences were juxtaposed during the Rousay transpression tectonic event of the late Silurian.

In New England, van Staal et al. (1998) suggested that the Dog Bay Line occupies a complex position within the Central Maine basin. The northwesterly Rangely sequence, which may extend as far as the White Misery River, has been linked to the Southwestern Permian basin. The Dog Bay Line may represent the complex stratigraphic boundary between the two basins. The exact position of the Dog Bay Line is not well established, and further study is needed to clarify its significance.

18-6 BTH 13 Schoonmaker, Adam
TECTONIC SETTINGS OF ORDOVICIAN AND DEVONIAN MAFC ROCKS NEAR TUCSON, ARIZONA.
Schoonmaker, Adam, Univ of Alaska, 6394, Anchorage, AK 99502-2201. schoonm@atmos.albany.edu and Kidd, W.S.F., Univ of Alaska, 315, Anchorage, AK 99502-2201. Field relationships and geochemistry of the Bean Brook Gabbro and equivalents (Boon House Gabbro) suggest a correlation with the Ordovician Dry Valley volcanics at the Ripogean Dam, northern Maine. The gabbros (K/Ar age 472 Ma) intrude the Hurricane Mountain Melange and related Cambrian sedimentary strata, but are continuously observed above the Abtacan unconformity. The Bailey Unit is comprised of the Bailey and Bailey Creek gabbros, which are typically composed of gabbro and gabbro-norite, and are not commonly observed above the Abtacan unconformity. The Bailey gabbros and gabbro-norite are characterized by calc-alkaline affinities on the Tofield/Fisher and c.d. diagrams. Trace element and geochemical studies of the Bailey gabbros show no evidence of crystal fractionation.

The volcanic rocks were erupted in a rapidly subsiding basin dominated by fine-grained mafic rocks and subsequently overlain by the Abatocan basin. The Bailey gabbros are characterized by a calc-alkaline affinity, and are not commonly observed above the Abtacan unconformity. The Bailey gabbros and gabbro-norite are characterized by calc-alkaline affinities on the Tofield/Fisher and c.d. diagrams. Trace element and geochemical studies of the Bailey gabbros show no evidence of crystal fractionation.

The volcanic rocks were erupted in a rapidly subsiding basin dominated by fine-grained mafic rocks and subsequently overlain by the Abatocan basin. The Bailey gabbros are characterized by a calc-alkaline affinity, and are not commonly observed above the Abtacan unconformity. The Bailey gabbros and gabbro-norite are characterized by calc-alkaline affinities on the Tofield/Fisher and c.d. diagrams. Trace element and geochemical studies of the Bailey gabbros show no evidence of crystal fractionation.
17-6 BTH 6 LeBlanc, Christopher R.
QUANTIFYING THE AMOUNT OF GAS HYDRATE BENEFIT THE CENTRAL SCOTIAN SLOPE FROM THE SEDIMENT VELOCITY STRUCTURE
LeBlanc, Christopher R.1, LOUDEN, Keith E.1, MOSHER, David C.1, and PIPER, David W.K.2, (1) Dep. of Earth, Ocean and Atmospheric Sciences, Dalhousie, Halifax, NS B3H 1J5, Canada, leblanc@phys.ogcm.dal.ca, (2) Geo Surveys of Canada (Atlantic), Dartmouth, NS B2Y 4A2, Canada.

Pressure-temperature conditions present in sediments on the Scotian slope, for water depths greater than approximately 500 metres, will cause water and dissolved methane in sufficient concentration to form gas hydrate. Increases in bottom water temperature or decreases in relative sea level can lead to dissociation of gas hydrate, releasing water and methane. This release may be an important contributor to global warming due to increasing the amount of greenhouse gas, or to slope instability due to increasing the sediment pore pressure. The base of the gas hydrate stability zone (GHSZ) can be determined by the top of the gas hydrate seafloor reflector, which appears as a bright acoustic impedance contrast and is called the GHSZ seafloor reflector. In August 2002, an area on the Central Scotian slope was investigated where gas hydrates were expected. This sediment was imaged with single channel reflection seismics and velocity measurements were determined from the top and bottom seismic reflections. This work will be presented at the Geological Survey of Canada (Atlantic) open house in May by Dr. LeBlanc and colleagues.

17-7 BTH 7 Wang, Guo
SEDIMENTARY ANALYSIS OF A LAKE CORE AT BARROW, ALASKA
Wang, Guo1, Xu, Jian2, Zhang, Guang2, and Liu, Yuan2, (1) Institute of Geophysical Sciences, Chinese Academy of Sciences, No.3, Datun Road, Beijing, 100101, China, wangguo@igg.ac.cn, (2) Institute of Geographical Sciences and Natural Resources Research, Chinese Academy of Sciences, No.3, Datun Road, Beijing, 100101, China.

It deals with the systematic multi-variable analysis of sedimentary process on the grain-size data and geochemical data of a lake core at Barrow, Alaska. The core length is 95 cm and from a depth of 20 cm to 2 m. It is composed of clay and clayey silt. It is composed of clay and clayey silt. It is assumed that the ratio of clay to silt is 1:9.5. The first principal component analysis is to find the major factors controlling the grain size distribution. The soil samples from the core and the silt samples from the sediment core are analyzed for grain size and geochemistry. The grain size distribution of the core is analyzed using the herbergian analysis. The results show that the grain size distribution of the core is controlled by the sedimentary process and the major factors controlling the grain size distribution are the wind, the water, and the ice. The sedimentary process is controlled by the wind, the water, and the ice. The wind is the major factor controlling the grain size distribution. The water is the second major factor controlling the grain size distribution. The ice is the third major factor controlling the grain size distribution. 3. The results show that the grain size distribution of the core is controlled by the sedimentary process and the major factors controlling the grain size distribution are the wind, the water, and the ice. The sedimentary process is controlled by the wind, the water, and the ice. The wind is the major factor controlling the grain size distribution. The water is the second major factor controlling the grain size distribution. The ice is the third major factor controlling the grain size distribution.
SESSION NO. 16

T11. Late Glacial–Early Holocene Climate and High-resolution Records of Climate Change from Lakes

1:40 PM, Westin Hotel, Harbour Suite B

Ian Spooner and R. W. Spear, Presiding

16-1 1:40 PM Kurek, J.; Cwynar, L.; Spear, R.W.; Schultz, M.: HIGH-RESOLUTION LAKE SEDIMENT RECORDS OF HOLOCENE CLIMATE FROM MAINE, USA [50898]

16-2 2:00 PM Ferland, Kristie A.; Kelley, Joseph T.; Belknap, Daniel F.; Dickson, Stephen M.; Gontz, Allen M.: AN INVESTIGATION OF GLACIOISOSTATIC LAKE-LEVEL CHANGES IN RANGELEY LAKE, MAINE [51016]

16-3 2:20 PM Spooner, Ian S.; MacDonald, Ian M.L.; Beeter, Brandon: A MULTI-PROXY LITHOSTRATIGRAPHIC RECORD OF LATE GLACIAL AND HOLOCENE CLIMATE VARIABILITY FROM PIPER LAKE, NOVA SCOTIA [51018]

16-4 2:40 PM Spear, R.W.; Cwynar, Les C.; Kurek, Joshua; Stillick, Craig D.; Storck, Allison J.; Clayton, Patrick L.: THE VEGETATION RECORD OF EARLY HOLOCENE CLIMATE IN THE WHITE MOUNTAINS OF NEW HAMPSHIRE AND MAINE [51369]

16-5 3:00 PM Rueger, Bruce F.: LATE HOLOCENE CLIMATIC CYCLICITY PRESERVED IN THE PEATS OF DEVONSHIRE MARSH, BERMUDA [51054]

3:20 PM Break

16-6 3:40 PM McCarthy, Francine M.G.; Blasco, Steve M.; Keyes, Darren; Harmes, Robert A.; Sherman, Keith: EARLY TO MID HOLOCENE CLIMATE RECORD FROM SEVERN SOUND, SOUTHERN GEORGIAN BAY, LAKE HURON, LAURENTIDIAN GREAT LAKES [51234]

16-7 4:00 PM Skarke, Adam D.; McClenen, Charles E.: LATE-GLACIAL AND HOLOCENE EVOLUTION OF LAKE ONTARIO: LAKE-LEVEL, ISOSTATIC REBOUND, AND SEDIMENT DEPOSITION [50595]


16-9 4:40 PM Wang, Guo*; Xu, Jiang; Zhang, Qingsong; Li, Yuanfang; Liu, Ken; Wang, Baoci; Wu, Xiongchong: ANALYSIS OF SEDIMENTARY ENVIRONMENT OF A LAKE CORE AT BARROW 6000 YEARS AGO [50903]

17-3 3 Oakley, Bryan A.: RESPONSE OF A MICROTLAL WAVE- DOMINATED BARRIER TO CLOSELY TIMED EXTRA-TROPICAL CYCLOONES [50675]

17-4 4 Scott, David B.: END MORAINES ON THE UPPER SCOTIAN SLOPE: RELATIONSHIP TO DEEP-SEA CORAL AND FISH HABITATS [51286]

17-5 5 Dunn, Richard K.; Byrne, Daniel I.: PALEOGEOGRAPHIES IN DELTA-ALLUVIAL PLAIN SETTINGS OF THREE PHOENICIAN HARBOURS, PORTUGAL [51442]

17-6 6 LeBlanc, Christopher R.; Loudon, Keith E.; Mosher, David C.; Piper, David J.W.: QUANTIFYING THE AMOUNT OF GAS HYDRATE BENEATH THE CENTRAL SCOTIAN SLOPE FROM THE SEDIMENT VELOCITY STRUCTURE [51327]

17-7 7 Wang, Guo*: Xu, Juan; Zhang, Qingsong; Li, Yuanfang: SEDIMENTARY ANALYSIS OF A LAKE CORE AT BARROW, ALASKA [50488]

SESSION NO. 18

Tectonics, Structural Geology, and Geophysics (Posters)

8:00 AM, Westin Hotel, Commonwealth A

Booth #

18-1 8 Oakley, Gordon N.; Dehler, Sonya A.: A NEW SERIES OF DETAILED MAGNETIC ANOMALY MAPS FOR ATLANTIC CANADA [51260]

18-2 9 Ténière, Paul J.; Barr, Sandra M.; White, Chris E.; Reynolds, Peter H.: STRATIGRAPHY, STRUCTURE, AND 40Ar/39Ar GEOCHRONOLOGY IN THE LOCHABER-MULGRAVE AREA, NOVA SCOTIA [49287]

18-3 10 Johnson, Susan C.: THE COMPOSITE NEW RIVER BELT, SOUTHWESTERN NEW BRUNSWICK [51247]

18-4 11 Short, Heather*: Johnson, Scott: STRAIN PARTICIONING IN A TRANSPRESSIVE OROGEN, CENTRAL COASTAL MAINE [51219]

18-5 12 Enslen, Thomas E.; Reusch, Douglas N.; Gibson, David: WHERE IN MAINE IS THE DOG BAY LINE? [51372]

18-6 13 Schoonmaker, Adam*: Kidd, W.S.F.: TECTONIC SETTINGS OF ORDOVICIAN AND DEVONIAN MARITIME ROCKS NEAR CHESUNCOOK LAKE, NORTHERN MAINE [51376]


18-9 16 Dietrich, Craig*: A GONDWANAN AFFINITY FOR THE GNIESZDOM DOME BELT, SOUTHWESTERN NEW ENGLAND APPALACHIANS [51308]

18-10 17 Blackmer, Gale C.: THOUGHTS ON THE EARLY PALEOZOIC TECTONIC SETTING OF THE PENNSYLVANIA PIEDMONT [50406]

18-11 18 McDermott, Andrew; Revetta, Frank; Chianerzelli, Jeffrey*: GRAVITY AND MAGNETIC SIGNATURE OF THE LOON LAKE SYNCLINE, AIRDROCK HIGHLANDS, NEW YORK [50379]

18-12 19 Ouassaa, Khaled*: Forsyth, Dave: NEW STRUCTURAL CONSTRAINTS ON THE LAURENTIAN MARGIN BENEATH SOUTHERN ONTARIO AND THE ADJACENT USA [51100]


FRIDAY, MARCH 28, 2003

SESSION NO. 17

Marine Geology and Sedimentology (Posters)

8:00 AM, Westin Hotel, Commonwealth A

Times when authors will be present at their posters will be indicated at each poster booth

Booth #

17-1 1 Poppe, L.J.*; Elison, A.H.; Hastings, M.E.: A VISUAL BASIC PROGRAM TO CLASSIFY SEDIMENTS BASED ON GRAVEL-SAND-SILT-CLAY RATIOS [48056]

17-2 2 Duxfield, Anya, K.*; Hughes Clarke, John E.; Parrott, Russell; Wildish, David; Fader, Gordon B.J.: THE RELATIONSHIP BETWEEN LINEAR CHAINS OF POCKMARKS AND SHALLOW SEISMIC
2003 Abstracts with Programs

March 27–29, 2003
Westin Hotel
Halifax, Nova Scotia

Volume 35, Number 3 – February 2003 – ISSN 0016-7592