



NELHA BOARD BOOK
December 11, 2024



NATURAL ENERGY LABORATORY OF HAWAII AUTHORITY

An Authority of the State of Hawaii attached to the Department of Business, Economic Development & Tourism



BOARD OF DIRECTORS MEETING AGENDA*
Natural Energy Laboratory of Hawaii Authority
December 11, 2024
11:00 a.m.

A Hybrid Interactive Conference Technology Meeting will be held
via Zoom and one location.

Board Directors and members of the public may attend the meeting
at the location listed below or via Zoom using this link:

<https://us06web.zoom.us/j/85950677381?pwd=agTbfHFM68mLYbLCRSFTcZ6vHbwkb3.1>

Meeting ID: 859 5067 7381
Passcode: 039818

Members of the public can also join via the toll-free telephone numbers listed below:

+12532158782,,85950677381#
or
+13462487799,,85950677381#

NELHA OceanView Conference Room 208
Hale Iako Building
73-970 Makako Bay Drive
Kailua-Kona, HI 96740

- 1. Call to Order.**
- 2. Public Testimony.**
- 3. New Business.**
 - a. Welcome new Board Member Dr. John Wiltshire who was elected as Secretary of the Research Advisory Committee at its December 2, 2024 meeting.

4. Old Business.

- a. Interviews, Discussion and Decision Making regarding candidates for the NELHA Executive Director Position as reported by the Permitted Interaction Group for the Hiring of the NELHA Executive Director at the November 19, 2024, Board Meeting. **

5. Announcements.

- a. Date of next regularly scheduled NELHA Board of Directors meeting is Tuesday, January 21, 2025, at 10:00 am.

6. Adjournment.

- * On any of the above items the Board may convene in Executive Session pursuant to section 92-5(a), HRS, to consult with the Board's attorney on issues pertaining to the Board's powers, duties, privileges, immunities, and liabilities pursuant to section 92-5(a)(4), HRS, to discuss business trade secrets of confidential or proprietary commercial or financial information of tenants or prospective tenants pursuant to section 227D-3.5, (HRS), or to receive information that is proprietary to a particular enterprise pursuant to HRS 227D-6.
- ** The Board may enter Executive Session pursuant to section 92-5(a)(2), HRS to consider the hire, evaluation, dismissal, or discipline of an officer or employee or of charges brought against the officer or employee, where consideration of matters affecting privacy will be involved; provided that if the individual concerned requests an open meeting, an open meeting shall be held.

In the event a location loses its audiovisual connection, the meeting will be automatically recessed to restore communications as described in section 92-3.7(c), HRS.

Members of the public may submit written testimony on this agenda via e-mail no later than 2:30 p.m. on Saturday, December 7, 2024, addressed to: laurence.sombardier@hawaii.gov Alternatively, members of the public may mail written testimony on this agenda to Laurence Sombardier, Natural Energy Laboratory of Hawaii Authority, 73-4460 Queen Kaahumanu Hwy., #101, Kailua-Kona, Hawaii USA 96740-2637.

Internet Access:

To view the meeting and provide live oral testimony during the meeting, please use the link shown on page 1 of this agenda. You will be asked to enter your name in order to access the meeting as an attendee. We request that you enter your full name, but you may use a pseudonym or other identifier if you wish to remain anonymous. You will also be asked for an email address. You may fill in this field with any entry in an email format, e.g., *****@***mail.com.

As an attendee, your microphone will be automatically muted during the meeting unless you are providing testimony. For each agenda item you wish to testify on, please click the “Raise Hand” button found on your Zoom screen. Board staff will individually enable each testifier to unmute their microphone. When recognized by the Board Chair, please unmute your microphone before speaking and mute your microphone after you finish speaking in order to prevent audio feedback. When testifying, you will be asked to identify yourself and the organization, if any, that you represent.

Telephone Access:

If you cannot get internet access, you may get audio-only access by calling the Zoom telephone number listed on page 1 of this agenda.

Upon dialing the number, you will be prompted to enter the Meeting ID which is also listed on page 1 of this agenda. After entering the Meeting ID, you will be asked to either enter your panelist number or wait to be admitted into the meeting. You will not have a panelist number, so please wait until you are admitted into the meeting.

When the Board Chair asks for public testimony, you may indicate you want to testify by entering “*” and then “9” on your telephone’s keypad. After entering “*” and then “9”, a voice prompt will let you know that the host of the meeting has been notified. When recognized by the Board Chair, you may unmute yourself by pressing “*” and then “6” on your telephone. A voice prompt will let you know that you are unmuted. Once you are finished speaking, please enter “*” and then “6” again to mute yourself.

If you need an auxiliary aid/service or other accommodation due to a disability, contact Ms. Faustine Edge at 808-327-9585 or faustine.x.edge@hawaii.gov as soon as possible, preferably three (3) working days prior to the meeting so arrangements can be made. If a response is received three (3) working days or less before the meeting, we will try to obtain the auxiliary aid/service or accommodation, but we cannot guarantee that the request will be fulfilled. Upon request, this notice is available in alternate formats such as large print, Braille, or electronic copy.

The next NELHA Board of Directors meeting is currently scheduled for Tuesday January 21, 2024.

Issued December 5, 2024, in compliance with Sunshine Laws

Item 2.

Public Testimony

Item 3.

New Business

- a. Welcome new Board Member Dr. John Wilthsire who was elected as Secretary of the Research Advisory Committee at its December 2, 2024 meeting.

Curriculum Vita

John Charles Wiltshire

ADDRESS 68-1870 Malina Place
Waikoloa , Hawaii, 96738

CONTACT Phone (cell): 808-223-4293
Phone (home): 808-333-5437
Email: johnw@soest.hawaii.edu

EDUCATION 1976 - Carleton University, Ottawa, Canada
Bachelor of Science in Geology, graduated with first class honors.
1983 - University of Hawai'i, Honolulu
Ph.D. in Geological Oceanography
Dissertation title: *The Origin and Sedimentology of the Puna Submarine Canyon, Hawai'i*
Award by the National Sea Grant Association for one of the top three marine science dissertations in the U.S. in 1983 receiving NOAA or NOAA recognized support.

PROFESSIONAL EXPERIENCE

2019 - **Retired from University of Hawaii after 40 years of service. Retirement position-S5. Given Emeritus Professor status in 2019. Now serve as a consultant with TCI Hawaii Inc. in marine minerals and geotechnical studies as well as continue as Editor-in-Chief of the international SCI peer reviewed journal 'Marine Georesources and Geotechnology'.**

2007 – 2018 **Department of Ocean and Resources Engineering (ORE)**
2011-2018 - Associate Chairman; 2007-2010 - Chairman
University of Hawai'i, School of Ocean & Earth Sciences & Technology
2540 Dole Street, Holmes Hall 402, Honolulu, Hawai'i 96822
I served as Department Chair and Associate Chair assisting in administering the department and advising students in this Graduate department offering Masters and Ph.D. degrees in coastal engineering, ocean resources engineering, and offshore engineering. I ran the accreditation program for the department including annual WASC surveys and highly detailed ABET evaluations. I taught ORE 202, 330 and 678, 792, as well as Oceanography 631. My personal research consisted of several projects in the marine minerals area. I also serve as advisor to several professional organizations on the mining of marine minerals and the associated effects on marine life. I am editor of the major international journal in the field of marine mining.

1986 – 2018 **Hawai'i Undersea Research Laboratory (HURL)**
(1986-1990 Researcher, 1991-2002 Associate Director, 2002- 2007 Acting Director
2008-2018 Director)
University of Hawai'i, School of Ocean & Earth Sciences & Technology
1000 Pope Road, Honolulu, Hawai'i 96822
Management of a deep submergence laboratory established at the University of Hawai'i .The laboratory ran two submersibles, a launch system and a major word class video data-base. I supervised a staff of 20 and brought in \$35 million of grant funds over the operational period.

1978 – 1983 University of Hawai'i, Department of Oceanography, Honolulu
 Position: Research Assistant and Lecturer
 Research into nearshore coastal processes and sediment transport, taught introductory oceanography (ocean 201) five times in summer session and night school.

1973 – 1977 Exploration geologist for Chevron, Union Oil, Petro Canada, Noranda Mines, and McIntyre Mines working seasonal exploration positions looking for oil and base metals in Northern Canada

SCIENTIFIC ASSOCIATIONS AND RELATED COMMITTEES

- International Marine Minerals Society (IMMS) - Member of the Executive Board and Treasurer.
- Marine Technology Society (MTS) – Past Chairman, Mineral Resources Professional Committee; Advisor UH Student Section, Society Fellow.
- OCEANS Conference - General Chairman for *OCEANS '11 MTS/IEEE Kona*, the international conference on the Big Island of Hawaii in Sept 2011 with an attendance of 1500. Conference highlighted the latest technical developments in the ocean industry and research. Also served as Conference General Chair for the previous OCEANS conference held in Hawaii, *OCEANS 2001 MTS/IEEE Honolulu*.
- Society for Mining, Metallurgy and Exploration (SME) – Past Chairman, Special Committee for Offshore Technology (OTC), which provides organizational input to the annual Offshore Technology Conference (the world's largest offshore technology conference held annually in Houston) for which I am also on the program committee, 2005-present; founding member U.S. Energy Policy Coalition sponsored by SME, head of SME marine mining committee, recipient of SME President's citation award in 2011.
- Pacific Congress on Marine Science and Technology and PACON International - 1984-present; Founding member, Treasurer, Chairman of PACON '99 Moscow, Board of Directors, elected Society Fellow in 2006.
- Organizer and Instructor, Toho University (Chiba, Japan) Environmental Field Program in conjunction with Outreach College, University of Hawaii - held annually 2008-2015. The program also involved a week of lectures in Japan
- Editor-in-Chief, *Marine Georesources and Geotechnology* (international journal), selected in 2016 by publisher Taylor and Francis for a major publicity campaign as one of its most improved journals .
- Deep Submergence Science Committee (DESSC) of UNOLS - Member 2011-2016, examined needs for U.S. deep submergence.
- Reviewer for several international scientific journals including: *Bulletin of Geological Society of America*, *Marine Technology Society Journal*, *Ocean Engineering*, *Ocean and Arctic Engineering*, *Applied Ocean Research*.
- SOEST – member of EXCOM 2010-15, ORE delegate to Faculty senate, ship committee member, ORE admissions committee, ORE 50th anniversary committee, Accreditation coordinator for ORE

CLASSES TAUGHT (2005-18)

2005	<i>Fall</i>	ORE 330 / OCN 330 - Mineral and Energy Resources of the Sea -Co-instructor Gary McMurtry OCN 622 - Geological Oceanography - Geophysical section
2006	<i>Spring</i>	OCN 631 - Ocean Minerals - Co-instructor Gary McMurtry
	<i>Fall</i>	ORE 330 / OCN 330 - Mineral and Energy Resources of the Sea - Co-instructor Gary McMurtry OCN 622 - Geological Oceanography - Geophysical section
2007	<i>Spring</i>	OCN 631 - Ocean Minerals - Co-instructor Gary McMurtry
	<i>Fall</i>	ORE 330 / OCN 330 - Mineral and Energy Resources of the Sea - Co-instructor Gary McMurtry
2008	<i>Spring</i>	ORE 678 - Marine Mining Systems Technology / OCN 631 - Ocean Minerals - Co-instructor Gary McMurtry
	<i>Fall</i>	ORE 330 / OCN 330 - Mineral and Energy Resources of the Sea - Co-instructor Gary McMurtry

2009	Spring	ORE 678 - Marine Mining Systems Technology / OCN 631 - Ocean Minerals - <i>Cancelled due to low enrollment</i>
	Fall	ORE 330 / OCN 330 - Mineral and Energy Resources of the Sea - Co-instructor Gary McMurtry
2010	Spring	ORE 678 - Marine Mining Systems Technology / OCN 631 - Ocean Minerals - Co-instructor Gary McMurtry
	Fall	ORE 330 / OCN 330 - Mineral and Energy Resources of the Sea - <i>Cancelled due to insufficient enrollment</i>
2011	Spring	ORE 678 - Marine Mining Systems Technology / OCN 631 - Ocean Minerals - Co-instructor Gary McMurtry
	Fall	ORE 330 / OCN 330 - Mineral and Energy Resources of the Sea
2012	Spring	ORE 678 - Marine Mining Systems Technology / OCN 631 - Ocean Minerals - Co-instructor Gary McMurtry
	Fall	ORE 330/OCN 330 - Mineral and Energy Resources of the Sea - Co-instructor Gary McMurtry
2013	Spring	ORE 678 - Marine Mining Systems Technology / OCN 631 - Ocean Minerals - Co-instructor Gary McMurtry
	Fall	ORE 330/OCN 330 - Mineral and Energy Resources of the Sea - co-taught with G. McMurtry
2014	Spring	ORE 678 - Marine Mining Systems Technology / OCN 631 - Ocean Minerals - Co-instructor Gary McMurtry
	Fall	ORE 330/OCN 330 - Mineral and Energy Resources of the Sea - Co-instructor Gary McMurtry
2015	Spring	ORE 678 - Marine Mining Systems Technology / OCN 631 - Ocean Minerals ORE 202- Ocean Technology (new course developed to meet SOEST requirement)
	Fall	ORE 330/OCN 330 - Mineral and Energy Resources of the Sea - Co-instructor Gary McMurtry
2016	Spring	ORE 678 - Marine Mining Systems Technology / OCN 631 - Ocean Minerals - Co-instructor Gary McMurtry ORE 202- Ocean Technology
	Fall	ORE 330/OCN 330 - Mineral and Energy Resources of the Sea - co-taught with G. McMurtry
2017	Spring	ORE 792 – ORE Department Seminar ORE 202- Ocean Technology (new course format introduced to increase enrollment)
	Fall	ORE 330/OCN 330 - Mineral and Energy Resources of the Sea - co-taught with G. McMurtry
2018	Spring	ORE 792 – ORE Department Seminar ORE 202- Ocean Technology ORE 678 - Marine Mining Systems Technology / OCN 631 - Ocean Minerals - Co-instructor Gary McMurtry

GRADUATE STUDENTS AND POST-DOCS

Post Docs

Dr. Tom Loudat, 1995-98
 Dr. Paul Troy, 1997-99
 Dr. De Yao, 1996, 1998 (visiting Chinese Scholar)
 Dr. Zhimin Bai, 2002 (visiting Chinese Scholar)
 Dr. Wei Fan, 2013-14 (visiting Chinese Scholar)
 Dr. Irina Kolotyrkina (visiting Russian Scholar) 2014-16
 Dr Donxing Wang – Wuhan University- applied 2017-18

Students whose thesis committees I have served on:

Kimo Zaiger - Ph.D. in Oceanography, 1995
 Lara Hutto - M.S. in Ocean and Resources Engineering, 2001
 John Winsley - M.S. in Ocean and Resources Engineering, 2003 (Chairman)
 Philomene Verlaan - Ph.D. in Earth Science, Univ. of London, 2003
 Kristen Woo - M.S. in Ocean and Resources Engineering, 2003
 Eric Hahn - M.S. in Ocean and Resources Engineering, 2003
 Daniel Merritt - M.S. in Ocean and Resources Engineering, 2005 (Chairman)
 Sophie Munger - M.S. in Ocean and Resources Engineering, 2007
 Shailesh Namekar - M.S. in Ocean and Resources Engineering, 2008
 Gregory Wong - M.S. in Ocean and Resources Engineering, 2008
 Lei Yan - M.S. in Ocean and Resources Engineering, 2008
 Krystin Bablinskas - M.S. student in Ocean and Resources Engineering, 2009 (Chairman)
 Adrienne Oakley - PhD. student in Geology and Geophysics, 2009
 David Wilkinson - M.S. student in Ocean and Resources Engineering, 2009 (Chairman)

Chad Henderson - Ph.D. in Architecture, 2009
Victoria Vaganov - M.S. in Ocean and Resources Engineering, 2010
Yoshiki Yamazaki - Ph.D. in Ocean and Resources Engineering, 2010
Adam Miyamoto - Ocean and Resources Engineering, 2012
Kahaleali'i Muhlestein - Ocean and Resources Engineering, 2012
John Casilio - M.S. in Ocean and Resources Engineering, 2012
Peter Aanst - M.S. in Ocean and Resources Engineering, 2013
Max Young - M.S. student in Ocean and Ocean and Resources Engineering , 2013
Richard Carter - Ph.D. student in Ocean and Resources Engineering, 2013
Shino Miyakita - M.S. in Ocean and Resources Engineering 2014
Kara Silver- M.S. in Ocean and Resources Engineering ,2014
Ghizlane Arouch, M.S. in Ocean and Resources Engineering, 2015
Courtney Rocha, M.S. in Ocean and Resources Engineering, 2016
Dan Curley, M.S. in Ocean and Resources Engineering, 2016
Paul Manglona M.S. in Ocean and Resources Engineering, 2016
Tony Montgomery, PhD. in Marine Biology, I am the outside committee member (expected graduation 2019)

Graduate students employed on my funded research projects:

Kathleen Moore (1999-2002) - Ph.D. in Physiology, graduated 2002
Xi Yuen Wen (1994-97) - M.S. in Oceanography, graduated 1995
Terry Lay (1995-97) - M.S. in Geology, graduated 1996 - Dalhousie
Philomene Verlaan (1996-97) - Ph.D. in Geology, graduated 2003 - London
Paul Troy (1995-96) - Ph.D. in Oceanography, graduated 1997
David Wilkinson (2007-09) - M.S. in Ocean and Resources Engineering, graduated 2009
Victoria Vaganov (2007-10) - M.S. in Ocean and Resources Engineering, graduated 2010
Max Young (2009 to 2014) - M.S. in Ocean and Resources Engineering, graduated 2014
Patrick Anderson (2009 to 2014) - M.S. in Ocean and Resources Engineering, graduated 2014
Ghizlane Arouch (2009 to 2012) - M.S. in Ocean and Resources Engineering

SERVICE IN AREA OF SPECIALITY

HIGHLIGHTS

HURL - effectively supervised and guided a staff of 20 with no angry resignations, personnel actions, grievances, or major disputes. Brought in over \$35 million in extramural funding during 15 years running the program. Wiltshire undertook a large number of innovative dive operations and supervised the rehabilitation of the LRT, an innovative low cost launch system for the submersibles in 2011. A few of the many major program highlights include finding the sunken Japanese mini sub that lead the Dec 1941 Pearl Harbor attack, characterizing Loihi Seamount (the next Hawaiian Island), exploring the immense submarine volcanoes of the Kermadec Arc, developing a procedure to work with scuba divers sampling meso-photic corals and finding dozens of new deep water species in the North West Hawaiian Islands. After funding was lost in 2015, Wiltshire wrote all final close-out reports. The last major administrative phase of work was handling requests for data, video and past dive information as well as assisting for staff members in new placements. All former staff have found successful new positions.

ORE ABET - Wiltshire was the accreditation coordinator for ORE. He wrote the 250-page document for the two most recent ORE accreditations in 2010 and 2016. In September 2016, ORE received the highest accreditation possible, a full six years. ORE was reviewed as having no concerns, weaknesses or

deficiencies (a perfect score). ORE ranked the best of the five engineering departments being accredited at UH. What Wiltshire did differently than in previous accreditations was to design a different method of highlighting ORE work and address some of the previously cited concerns in a proactive manner. This effort was presented at the UH peer reviewed accreditation symposium in April, 2016

Outreach to the Ocean Engineering Profession

Oceans 2011 MTS/IEEE Kona – Wiltshire was general chair of the combined annual meeting of the Marine Technology Society and Oceanic Engineering Society in September 2011. This meeting was a risky experiment for the sponsoring societies involved. At the time the decision was finalized to hold the meeting, the U.S. had just gone into major recession and the meeting was scheduled, not only in a remote locale (Hawaii) but on an outer island (Kona). This presented challenges and was strongly opposed by some of the exhibitors. Exhibit spaces pay for a third of the cost of the meeting. In spite of the downturned economy and the higher costs on the Big Island for everything from transportation to staffing, the meeting was a resounding success bringing in \$5 million to the depressed local economy. It attracted a record number of papers and 1,500 attendees, which is a record for MTS/IEEE meetings in Hawaii. Wiltshire pulled together a diverse team of volunteers and kept them motivated and focused. In spite of the economic times, Oceans '11 Kona was able to turn a profit, much to the surprise and grateful delight of the societies involved. Wiltshire continues to work with MTS.

Marine Geotechnology and Georesources Journal - Since taking over as editor of this journal in 2008, Wiltshire has tripled the journal's impact rating. It has steadily increased each year in ranking against peer journals. The journal, once in danger of being cancelled, is now among the highest rated journals in the geotechnical and marine minerals fields. In 2018, 370 review worthy manuscripts were submitted. Thirty-five percent of these were published. Wiltshire reorganized the Editorial Board, revamped the review process, had them join ScholarOne (the online submission and review system), and convinced the community to publish in this journal. The impact factor jump has been greatly praised by the publisher, Taylor and Francis.

PACON - The ***Pacific Congress on Marine Science and Technology*** is a small, specialized conference held every two years and is designed for east-west scientific exchange. Wiltshire is one of the founding members of the conference, currently serving on the Board of Directors as Treasurer, and was a key organizer for PACON 2010 (Hilo) and PACON 2012 held in Kona. PACON '14 was held in Tokyo, Japan. PACON'17 was held in Zhou Shan China. Wiltshire is part of the committee bringing PACON to Vladivostok, Russia in July 2019.

On-going Research - Work in the area of marine minerals dealing with tailings is being published in a major new book which came out in May, 2017. The tailings work is on-going and has been submitted to Nautilus Minerals for consideration of support. I am part of an NSF grant which was submitted with a blue ribbon team from Carnegie Mellon University in 2016 for work on HVDC deep sea cables as a way to transmit renewable energies long distances. The grant is under revision for a resubmission in 2019 after favorable reviews. I am also working with BOEM on the potential application of deep sea compressed air storage as a way to store excess power generated by renewable sources and keep it available for later use.

AWARDS

In 2011, Wiltshire received the prestigious **President's Citation Award** from The Society for Mining, Metallurgy, and Exploration (SME) for work in developing the marine mining industry. Wiltshire continues his work with SME to foster marine mining and will be discussing key updates at their Feb 2019 annual meeting.

FUNDING FROM ORS WEBSITE 2010-2015 :

Agency	Proposal Title	Award Amount
National Oceanic & Atmosc. Admin., Dept. of Commerce	HURL Annual Funding - 2010	\$2,946,455
National Oceanic & Atmosc. Admin., Dept. of Commerce	HURL Annual Funding – 2011	3,495,349
National Oceanic & Atmosc. Admin., Dept. of Commerce	HURL Annual Funding - 2012	2,052,290
National Oceanic & Atmosc. Admin., Dept. of Commerce	HURL Annual Funding - 2013	1,453,000
National Oceanic & Atmosc. Admin., Dept. of Commerce	Coral Reef Research Grant Program for Hawaii and the Western Pacific	215,013
Western Pacific Regional Fishery Mgmt Council	Ecological Impacts of <i>Carijoa Riisei</i> on Black Coral Habitat in the ‘Au’au Channel	86,796
Western Pacific Regional Fishery Mgmt Council	Ecological Impacts of <i>Carijoa Riisei</i> on Black Coral Habitat and Eradication Efforts in waters off Kauai	29,063
National Oceanic & Atmosc. Admin., Dept. of Commerce	Submersible Support for Meso-Photic Coral Reef Survey in the Main Hawaiian Islands	210,000
Honolulu Seawater Air Conditioning LLC	Survey of the Proposed Honolulu Seawater Air Conditioning Pipe Route	39,568
National Geographic Television	Marine Investigation of Lo’ihi Seamount and Deep Sea Precious Corals	334,989
Sea Engineering, Inc.	Submersible Support for Marine Inspection of the Sand Island Outfall	35,338
Business, Econ Dev & Tour-Nat Energy Lab (NELH)	Deep Seawater Pipeline Inspection and Survey 2012	152,795
National Oceanic & Atmosc. Admin., Dept. of Commerce	Central Pacific Deep-sea Exploration & Research Projects: A Compendium of Multi-disciplinary Expeditions to be Accomplished by the University of HI (2014)	800,000
Planning Solutions, Inc.	Catalog and Analyze Seafloor Manganese Nodule Data (2014)	18,771
WILTSHIRE, JOHN C.	TOTAL	11,869,427

Additional ongoing funding includes 2 active revolving accounts: one for HURL data products and video sales, and one for conferences most notably our annual underwater water mining conference in conjunction with the International Marine Minerals Society

PUBLICATIONS (chronological)

Wiltshire, J., 1981, An Evaluation of the seabed Troika photos from SONNE Leg 14, S.W. Pacific Basin, in Pluger, W.(ed) Fahrbericht und Wissenschaftlicher Zwischenbericht der F. S. SONNE 14, *Rheinisch-Westfälischen Technischen Hochschule Report*, Aachen.

Malahoff, A., G.M. McMurtry, J.C. Wiltshire, and H.W. Yeh, 1982, Geology and chemistry of hydrothermal deposits from active submarine volcano, Loihi, Hawaii, *Nature*, v.298, n.587, p.234-239.

Wiltshire, J., 1982, The potential of the Puna Submarine Canyon for the slurry disposal of manganese nodule tailings, *Proceedings of Ocean's '82*, Marine Technology Society, Washington, p.1069-1073.

Wiltshire, J. and W. Dudley, 1983, Sedimentary patterns in a very young submarine canyon off Hawaii, *15th Pacific Science Congress Abstracts*, Dunedin, New Zealand.

Wiltshire, J.C., 1983, Marine geological research in the Puna Submarine Canyon off Hawaii, *Proceedings of the Big Island Science Conference*, v.7, n.8.

Wiltshire, J.C., 1984, Offshore outfall disposal for a Hawaiian manganese nodule processing plant, *Proceedings of the Pacific Congress on Marine Technology*, Marine Technology Society, Honolulu, p. MRM 3/22-28.

Wiltshire J.C., 1984, Innovative trends in marine management: Hawaii's manganese crust work group, *Proceedings of Oceans '84*, Marine Technology Society, Washington, p.884-889.

Wiltshire, J.C. and C.L Morgan, 1986, The potential for high grading cobalt-rich manganese oxides in the Hawaiian Exclusive Economic Zone, *Proceedings of the Second Pacific Congress on Marine Technology*, University of Hawaii, Honolulu, p.MRM 3/ 13-19.

Wiltshire, J., 1986, Environmental impacts of proposed manganese crust mining, in C. Johnson and A. Clark (eds.), *Pacific Marine Resources: Physical, Economic and Legal Issues*, East-West Center, Honolulu, p.459-483.

Wiltshire, J. and G.M. McMurtry, 1987, Deep-sea sampling of consolidated material by submersible, *Proceedings of Oceans '87*, Marine Technology Society, Washington D.C., p. 1052-1057.

Holmes, M.L., R. Zierenberg, J. Wiltshire, M. Lyle, W. Normark, and A.G. Carey, 1987, Submersible observations in the Escanaba Trough, *Proceedings of the Gorda Ridge Symposium*, Oregon Department of Geology and Mineral Industries, Portland.

Wiltshire, J.C., 1987, A review of research conducted under Hawaii's Manganese Crust Project, *Proceedings of the Third Annual Technology Transfer Meeting*, Minerals Management Service, Los Angeles.

Wiltshire, J.C., 1988, Deep seabed mining within the EEZ, in E.K. Datta (ed.), *Proceedings of Pacific Basin Management of the 200 Nautical Mile EEZ*, Pacific Basin Development Council, Honolulu, p.153-160.

Wiltshire, J.C., 1988, Investigations of the Hawaii Undersea Research Laboratory, in E.K. Datta (ed.), *Proceedings of Pacific Basin Management of the 200 Nautical Mile EEZ*, Pacific Basin Development Council, Honolulu, p.119-126.

Morgan, C.L., R. Mahan, A. Malahoff, and J. Wiltshire, 1988, Microtopography of Cross Seamount, *Marine Mining*, v.7, p.249-269.

Murphy, E., G. McMurtry and J. Wiltshire, 1988, Axial Seamount versus the Gorda Ridge, *EOS Trans., Am. Geophys. Un.*, v.69, n.44, p.1484.

Gorda Ridge Group B (a group of 7 scientists including J.C. Wiltshire), 1988, Hydrothermal activity on the Northern Gorda Ridge, *EOS*, December 1988.

Wiltshire, J. and G McMurtry, 1989, Precious metal accumulation in manganese crusts from the Hawaiian and Johnston Island Exclusive Economic Zones (abstr.), *Second Symposium on Studies Related to the Continental Margins: Abstracts*, Bureau of Economic Geology, University of Texas.

Gorda Ridge Group B (a group of 7 scientists including J.C. Wiltshire), 1990, Major off-axis hydrothermal activity on the Northern Gorda Ridge, *Geology*, v.18, p.493-496.

Wiltshire, J.C., 1990, Policy issues for detailed bathymetric mapping in the Hawaiian Exclusive Economic Zone and Hawaii's Marine Mining Program, *Proceedings of the 1989 Exclusive Economic Zone Symposium on Mapping and Research: Federal-State Partners in EEZ Mapping*, U.S. Geological Survey Circular 1052, p. 113-119.

Wiltshire, J.C., 1990, Platinum accumulation in cobalt-rich ferromanganese crusts, *Proceedings of the Fourth Pacific Congress on Marine Science and Technology*, v.1, p. 405-412.

Wiltshire, J.C., 1990, Precious metal accumulation in manganese crusts from the Hawaiian and Johnston Island Exclusive Economic Zones, in M. Hunt, S. Doenges and G.S. Stubbs (eds.) *Studies Related to Continental Margins*, Bureau of Economic Geology University of Texas, Austin, p.45-53.

Wiltshire, J. and G. McMurtry, 1991, The application of laser ablation ICP-MS to the investigation of platinum accumulation in ferromanganese crusts (abstr.), *Toronto '91 Abstracts*, Geological Association of Canada.

Arvidson, R., J. Wiltshire and H.-W. Yeh, 1991, An assessment of substrate phosphorite resources in the Hawaiian EEZ, *Proceedings of Oceans '91*, Oceanic Engineering Society of IEEE, Washington, p.1575-1582.

Wiltshire, J., 1991, Application of ferromanganese marine mineral tailings in concrete and ceramics, *Proceedings of the 22nd Underwater Mining Institute*, Marine Minerals Technology Center, Honolulu.

Wiltshire, J., 1992, Beneficial uses of ferromanganese marine mineral tailings, *Pacific Congress on Marine Science and Technology Abstracts*, PACON International, Honolulu.

Wiltshire, J., 1992, Applications of manganese nodule tailings in the manufacture of innovative building materials, *Symposium on Ocean Technology Abstracts*, National Institute of Oceanography, Goa, India, p.19-20.

Wiltshire, J., 1992, Seafloor cobalt deposits: A major untapped resource, in *Cobalt at the Crossroads Conference Volume*, Intertech Corporation, Portland, Maine.

Loudat, T. and J. Wiltshire, 1993, The economics of mining manganese crust with recovery of platinum and phosphorus, in N. Saxena (ed.), *Recent Advances in Marine Science and Technology*, PACON International Hawaii, p.413-422.

Wiltshire, J., 1993, Beneficial uses of ferromanganese marine mineral tailings, in N. Saxena (ed.), *Recent Advances in Marine Science and Technology*, PACON International Hawaii, p. 405-412.

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Item 4.

Old Business

- a. Interviews, Discussion and Decision Making regarding candidates for the NELHA Executive Director Position as reported by the Permitted Interaction Group fo the Hiring of the NELHA Executive Director at the November 19, 2024 Board Meeting. **

Item 5.

Announcements

- a. Date of next regularly scheduled NELHA Board of Directors meeting is Tuesday, January 21, 2025, at 10:00 am.

Item 6.

Adjournment