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Pearl Expedition Yields Significant Result

GIA, with the assistance of Paspaley Pearling Company, collects unprecedented Pinctada maxima samples

BANGKOK – Oct. 30, 2013 – GIA (Gemological Institute of America) researchers from Thailand, with the assistance of the Paspaley Pearling Company, recently conducted an expedition to Australia's wild pearl oyster beds, which provided unprecedented opportunity to advance research into differentiating certain nacreous saltwater non-bead cultured pearls from natural pearls. GIA's pearl research group and others in the pearl trade have focused on this sometimes difficult differentiation for decades.

In addition to thousands of laboratory analyses over the past few years, a major focus for both the GIA and Paspaley Pearling Company research teams has been establishing the most important criteria for present and future research: a reliable sample base of natural and cultured pearls of various types. While obtaining a definitive sample base for cultured pearls is straightforward, the rarity of natural pearls makes collecting a substantial sample base challenging.

Australia's wild pearl oyster beds have been fished continuously since the mid-1800's for *Pinctada maxima*, the world's largest species of pearl oyster that has yielded many of the world's large saltwater natural pearls. GIA sought to conduct research in Australia with Paspaley's assistance as the country's seas are home to the world's last commercially active fishery for wild *Pinctada maxima* oysters. According to Kenneth Scarratt, GIA managing director for Southeast Asia, several recent expeditions by GIA into the waters off the rugged Northwest Coast resulted in the acquisition of many natural and cultured pearls that have produced excellent data that will enable GIA to establish impeccable test criteria for its pearl identification teams.

"Resolving the issues involved in differentiating natural from saltwater non bead cultured pearls has been a focus of GIA's research group for some time," said Scarratt. "Meeting these challenges and using the results to serve GIA's public benefit mission is what makes this kind of research so rewarding and important."

A recent expedition that coincided with a Paspaley wild shell collection program focused on gathering large *Pinctada maxima* shell for use in the Mother of Pearl industry yielded the Institute's most extraordinary results thus far.

In late September and early October, GIA pearl researchers Artitaya Homkrajae and Areeya Manustrong spent ten days aboard Paspaley's diving ship MV Marilynne, during which they discovered and extracted 776 natural pearls from 20,488 large wild oysters. A majority of these pearls were small "seed" pearls, with the smallest measuring under 1mm in diameter, and the

largest, a rare pearl measuring 16mm diameter. Prior to this expedition, there were few opportunities for gemological laboratories to examine a significant number of undrilled natural *Pinctada maxima* pearls of confirmed provenance, meaning previously that their origins were determined only by examining their internal structures and provenance ‘assumed’. This sample will provide GIA with a unique and unprecedented opportunity to compare what is understood about natural structures with undrilled pearls known to be natural.

“This was a unique opportunity to gather specimens from an important and well-known source,” said Artitaya Homkrajae, GIA pearl researcher. “Establishing explicit provenance for the samples will support a great deal of further research,” added Areeya Manustrong.

These 776 natural pearls, along with their shells, now reside in GIA’s laboratory in Bangkok. In the coming months, extensive research will be carried out using in-house high resolution real-time microradiography and micro CT imaging, as well as detailed chemical analyses and the application of other test methods.

As part of GIA’s public benefit mission, a full and detailed report will be prepared and published in the coming months that will help clarify and establish clearer criteria for the interpretation of various data collected during the normal laboratory examination of pearls.

For more information about GIA, visit www.gia.edu. For press inquiries, please contact Kristin Mahan at kristin.mahan@gia.edu or 760-603-4184.



GIA researcher Artitaya Homkrajae searching for natural pearls within the mantle of a *Pinctada maxima*. Photo by Areeya Manustrong ©GIA.



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About GIA

An independent nonprofit organization, GIA (Gemological Institute of America), established in 1931, is recognized as the world's foremost authority in gemology. GIA invented the famous 4Cs of Color, Cut, Clarity and Carat Weight in the early 1950s and in 1953, created the International Diamond Grading System™ which, today, is recognized by virtually every professional jeweler in the world.

Through research, education, gemological laboratory services, and instrument development, the Institute is dedicated to ensuring the public trust in gems and jewelry by upholding the highest standards of integrity, academics, science, and professionalism. Visit www.gia.edu.

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