"Beta Analytic, the radiocarbon-dating lab facility that performed our test, indicated that coconut fiber is an ideal substance to date since the coconut is a growth that occurs annually. …coconut material is much superior since a new harvest occurs every year and a comparatively accurate date may be determined. Finally, ^{14}C dates as modern as +300 years are highly suspect from a scientific standpoint and are only to be used as confirmatory data and not the only source of dating."

— **Richard C. Nieman,** October 6, 1993

"If humans were to appear on the Earth with no more than a coconut palm, they could live quite happily and contented for all eternity."

Arab Proverb

Chapter Ten
CRACKING THE NUT

Perhaps you are still envisioning one of the other pathways: i) a floating mountain of fibrous flotsam, ii) a treasure searcher sneaking in tons of fiber for the 'big reveal,' or iii) hundreds of ships hosing out their hulls or manicuring their hawsers, while anchored off the shore of one Island – *Oak Island!*

For the rest of us, we are left to ponder Pathway iv: "*Brought and used by ancient voyagers for flood tunnel purposes.*"

Greater than 2,250 years have passed since the coconut started hitchhiking westward from its homelands to the Indian sub-continent. Those nutty nuts were hauled to-and-fro like luggage of a traveling salesman. Coconuts were transplanted throughout the Indonesian, Melanesian, and Micronesian archipelago island chains, known as *Oceana*. Based on luggage tags, the people from Borneo may have even talked about taking the coconut across the Indian Ocean to mysterious places like India, Madagascar, and from there on to Alkebulan! In the 15th century, Portuguese mariners took the coconut from there and from India, on to the Cape Verde Islands in the eastern Atlantic. It is from this hub; the coconut was furthered by the travelers of the Tradewinds. Fifty years later and westward on slave ships to Brazil, the outer barrier islands of Honduras, and the Caribbean; the coconut cultivated itself on many a coast. Relatives rode northwards up the West Alkebulan coast all the way from Senegal to Angola.

Distant descendants of these coconut caravans had already reached the western shores of the Americas around the same time. Over the Pacific from Polynesia the Coconut Palm Tree spread its' branches on the coasts of the Philippines, Mexico, Panama, and South America. With the help of Spanish explorers in the mid 1500's, this drupe became a distant darling on almost every

continent. So by the 16th century, the coconut had completed its hitchhiking encirclement of the globe.

Are we really, really, really sure - those fibers are as old as *Beta Analytic Labs*, *Brock University*, *Geochron Labs*, and *Woods Hole Oceanographic Institute* have tested them to be?

Additional island artifacts' carbon-dated test results are provided below for a fuller picture of the scientifically determined antiquity within the island.

Brock Univ. #?, charcoal mixed with vegetation = **90 BCE**, (148-32)
COOI SE9/EP13, oar-like wood Piece = **224-376 AD,**
Wood stake = **250 AD**,
Brock Univ. #BGS678, wood slat #2 = **281 AD**, (201-361)
Brock Univ., decayed vegetation around charcoal = **310 AD**, (228-392)
Brock Univ. #BGS677, wood slat #1 = **311 AD**, (241-381)
Ship's railing in swamp = **660 AD,**
WHOI #10167, coconut fibers = **855 AD**, (825-885)
Geochron #1692, oak peg from timber structure = **860 AD**, (720-1000)
Chinese cash coin = **80 BCE**-**900 AD**,
* L`Anse aux Meadows Viking Station = **1021 AD,** (Newfoundland)
*Norwegian coin minted = **1065-1080 AD,** (Maine)
BETA #66584, coconut fibers = **1130 AD**, (1060-1200)
Geochron #1691, inclined beam from timber structure = **1135 AD**, (1025-1245)
BETA #39897, coconut fibers = **1180 AD**, (1120-1240)
Swamp core sample with twig = **1200 AD**,
Stick found under paved wharf = **1200 AD**,
Creation of the swamp = **1225 AD**,
WHOI #10168, coconut fibers = **1230 AD**, (1195-1265)
Lead cross dated to = **1280 AD**,
COOI SE1/EP2, coconut fibers = **1330 AD**, (1260-1400)
Piece of carbon with nail attached = **1340 AD**,
COOI SE3/EP11, eelgrass fibers = **1470-1650 AD**,
Tree root under stone wharf in swamp = **1474-1638 AD,**
D2 Boring wood & metal w/gold samples = **1488-1650 AD,**
Brock Univ. #?, Inclined timber = **1570 AD**, (1420-1720)
Geochron #1584, wood chips = **1575 AD**, (1490-1660)
COOI SE9/EP11, 2'x6"x2" swamp plank = **1595 AD,** (1516-1674)
COOI SE9/EP?, 4 ft board in swamp = **1520-1674 AD,**
Brock Univ. #?, log 1970 = **1645 AD**, (1530-1760)
COOI SE9/EP12, trapezoidal wood bulkhead = **1683-1735 AD,**

*Not found on the island

Above are Oak Island-associated dated artefacts by time of print.

Counting Coconut Carbons

I do not have permission to display images of all the actual lab result reports reflecting the radiocarbon dating of artefacts, specifically the coconut fiber found on Oak Island. The reasons I've been given, range from labs having updated their reporting nomenclature, or no longer providing those services, to proprietary confidential customer information. I have no problem with any of those reasons. Nor have any recent *^{14}C* dating lab reports from the organic fibers found and discussed on the television show *Curse of Oak Island*, been released to the public. My goal is simply to acquire the most accurate dating of those specimens to perform the forensic investigation this book has launched. I do have the exact pertinent data from those reports which are currently available in the public domain, along with identifying their source.

Moving forward, I would like to identify the varied and confusing scientific nomenclatures used in the reports, lab results, and write-ups documents collected. The symbology has been different by vendor, different by technological improvement, different by introduction of standards by governmental agencies, and finally the field itself sought standard reporting regimens of the use of nomenclatures in 2019.[1] I have also found the literary world and various fields of study have preferences in their usage of certain nomenclatures for radiocarbon articles.

Often, I was frustrated with the pull between posting how the data was initially shown, or using the newest nomenclature. As an example, does one use 'BC & AD' or 'BCE & CE?' Never mind the politically correct usage of AH or AM. There seems no universal agreement as to whether this nomenclature should be demonstrated as BC or BC or B.C. or B.C.E., or 1950 AD or AD 1950. Is it; 14C, ^{14}C, C-14, or C^{14} ? I found myself using CD-14 in this book and I have no idea where I picked that up! One more example which is currently in play is the nomenclature which represents the year of 1950 = BP. Why 1950 – *don't ask!* Quickly glance through

googled scientific publications and you will find; B.P., BP, bp, ybp, YBP, RCYBP, and cal BP, cal BC, or Cal AD. *Sometimes ya just wanna cry!*

Instead of dragging you through all of these variables and the issues which created them, we dunderheads simply want the calendar date range of when they died, which I've **bolded**.

YBP = year before present (or 1950)

Beta Analytic Labs

This lab initially used radiocarbon dating on two submitted Oak Island coconut fiber specimens, one in 1990 and one in 1993. Some of the fiber of BETA sample #39897 was set aside for later potential testing using AMS (Accelerated Mass Spectroscopy). BETA first reported their ^{14}C fiber test result on specimen #39897 (fibers) on 10-4-1990. The results show a YBP being 1950, was *770 years*. Both a follow-up letter from BETA (10-4-90) as well as initial notification to the Oak Island group (10-7-90) reported by Dick Nieman, shows the related calendar date of that specimen, was the year **1180 AD** for fibers #39897.

Their second ^{14}C dating of a different Oak Island fiber (organics) sample #66584 was performed on 10-6-1993. The results show a YBP being 1950, was *820 years*. This is said to have been "dendro" calibrated to the calendar year **1229 AD**, for specimen #66584. This is not following the previous mathematical protocol, as the calendar year should be **1130 AD** instead. Notations say "*adjusted for dendro calibration, explained on attached sheet, date **1229 AD***."

In this same report (10-6-93) BETA also shows what appears to be a different date for the fibers of BETA specimen #39897 from their 10-4-90 report. Perhaps this change reflects the "*dendro calibration"* referred to in their 10-6-1993 report; as it now reflects the calendar year **1278 AD**, for specimen #39897. Yet it clearly shows the YBP being 1950, was *770 years*. *I Cannot explain it.*

The letter sent on 10-6-93 by Dick Nieman informing the Oak Island group of the 10-6-93 BETA report he was telephonically told the findings for BETA #66584 specimen had a YBP being 1950, was *820 years*, giving a calendar date of **1130 AD**. So both initial BETA reports for BETA #39897 and BETA #66584 were changed to reflect later calendar dates, yet with the same YBP being 1950 and same radiocarbon ages of 770 yrs. and 820 yrs., respectively.

At this point without all the communications between parties, it would appear BETA Analytics either performed two separate *^{14}C* tests on two different Oak Island fiber samples (BETA #39897 and BETA #66584), or most likely, the test performed on each was re-calibrated for "dendro" and given another new calendar date each.

Each BETA specimen was given two different related specimen dates; #39897 = **1180 AD** & **1278 AD** (+98 years change), #66584 = **1130 AD** & **1229 AD** (+99 years change).

Therefore, It appears BETA Analytics did not at that time, perform AMS on specimens submitted.

Curse of Oak Island Television Series Reported 14C Dates

During the nine years of airing on the History Channel, the COOI team has frequently found and had radiocarbon dated a wide variety of artefacts, including coconut fibers. During Season 1, Episode 2, the team discussed a specimen of coconut fiber which Dan Henskee, Jack Begley, Alex Lagina, and Peter Fornetti dug up down in Smith's Cove. The show announced this coconut fiber specimen *^{14}C* dating range was **1260 AD** to **1400 AD**. I believe BETA Analytics was the lab which performed this specific test and has worked the majority of artefacts from the show, since. Though they did not reveal the "*± range,"* we can infer it was YBP being 1950, *620 years*, or **1330 AD** ± 70 years.

Woods Hole Oceanographic Institute

In 1995-96, WHOI used both advanced technologies - *Accelerated Mass Spectroscopy* (AMS) and *Scanning Electron Microscopy* (SEM) to evaluate different submitted coconut fiber samples found on the island by Triton Alliance, the current searcher at the time. For the WHOI #10167 specimen, the results show a YBP being 1950, was *1140 years*. This would be a calendar year of **810 AD**. The second specimen, WHOI #10168 had results show a YBP being 1950, was *765 years*. This calendar date would be **1185 AD**.

Within the text of the report however, the WHOI authors say the calendar year for WHOI #10167 as **855 AD**. I assume this was based on their using the current calendar year of 1995 in the report, instead of using the YBP year of 1950 for uniformity. This has helped to create some confusion. Further complicating the existing confusion, WHOI report erroneously says Dan Henske collected the specimen on July 27, 1996, which is after the date of the reports issuance. The date should show Dan Henske collected the sample on July 27, 1995. Then the rejection by these WHOI authors of results for their own WHOI #10168 specimen because it was so similar to BETA Analytic findings, may indicate they were unaware both BETA specimens had their calendar dates "corrected."

So from WHOI we have two fiber specimens with radiocarbon ages of *1140 years* and *765 years*. Beta Analytic also had two fiber specimens with radiocarbon ages of *770 years* and *820 years*. The calendar dates for these four specimens respectively would be **810 AD**, **1185 AD**, **1180 AD**, and **1130 AD**.

If we change this record to reflect BETA Analytic late changes to their specimens datings for some unknown reason, we would be swapping out **1130 AD** for **1229 AD** and **1180 AD** for **1278 AD**. Yet in July 2006, Les MacPhie Senior Geotechnical Specialist and Civil Engineer who has done more to investigate and compile the official scientific studies performed on Oak Island than any other person, chose to ignore those 'calibration corrected' revised calendar dates for BETA fiber specimens, when he compiled his reports.

Most of this is mute, in that the radiocarbon dates of whatever specimens we consider, fall within a relatively similar historical timeframe: **810 AD**, **1130 AD**, **1180 AD** and **1185 AD** and the COOI specimen of **1330 AD**. Should we take the corrected dates of the BETA Analytic specimens, then we would replace the 1180 & 1185 with **1229 AD** & **1278 AD**. Or more broadly, our timeframe would be **810 AD – 1330 AD**, which represents a 520-year time period. As we will show, the **810 AD** date is dropped as an outlier due to recent "recalibration" of calculated radiocarbon dating algorithms by experts outside this discussion. This further compacts our period of fiber ages to a 200-year window.

The labs analysis and text of reports, as well as the pertinent sections of WHOI's 1996 "Field Observations" 151-page report, are provided on the following pages. They are listed in full in Appendix C, *"On the Record."* They can also be found on many websites when you google *Les MacPhie Canadian Engineer*.

Included with this reportage are some of the explanatory letters sent between parties as well as the extracted detailed commentary written by Woods Hole Oceanographic Institute regarding their carbon date testing and determinations. Their report was issued in 1996 and was 151 pages to include microscopic images of the fibers tested. The images do nothing for proving the accurate dating of the fibers but was used to conclusively prove the samples were actually coconut fibers.

Pertinent Extracts from Appendix C, "On the Record"

50. "2 Page Letter from Robert R. Dunfield responding to questions," by D'Arcy O'Connor. October 21, 1976.

> *"…#3, Yes. The coconut fiber was analyzed to be "coir," a fibrous mass between the coconut shell and the outer husk, which was used as dunnage in the early days of primitive shipping. The so-called cement is nothing more than limestone."*

55. <u>Letter from Beta Analytic Inc. Dir. Dr. Murry Tamers, to Richard C. Nieman. Sep. 28, 1990. Results of radiocarbon dating of "fibers":</u>

-Beta-39897 Oak Island (fibers) 770 ± 60 BP (1950 – 770 = **1180 AD**)

56. <u>Letter from Richard C. Nieman to Dan Blankenship. October 7, 1990. Results of radiocarbon dating of "fibers" as reported from Beta Analytic, dated October 4, 1990:</u>

"During our visit to Oak Island this summer, Dan Henske provided some samples of what is believed to be coconut fiber. Dan retrieved this material from Smith's (north) Cove after removing several feet of beach overburden. While I did not actually observe the removal of material from the beach, Dan informed me that this was the same material which had been removed in great quantity by earlier searchers and the same material which had been identified by the Smithsonian as coconut fiber. I indicated that I would do my best to determine what could be learned from the fiber and the following is a result of that effort.

My first step was to seek the counsel and advice of Mendel Peterson of the Smithsonian. In a telephone conversation Mendel advised that in his experience the only thing to be learned would be to date the material by the carbon-14 method. We discussed several other possibilities, but finally concluded that age determination by a C-14 test was the most productive use for this fiber sample.

After many telephone conversations, I located a graduate student of the Art and Archeology Department of Washington University of St. Louis who was most willing to help. In these conversations I inquired as to what could be learned from this type of material. Not to belabor the various possibilities here, the conclusion was that C-14 dating would be the most productive use for our fibers. However, she did point out that C-14 will only provide a range of dates and that for our purposes this would be of somewhat limited usefulness since the plus and minus range would take in a lot of history. She suggested that if we could locate a complete log or portion of tree trunk which had been associated with the original project, it should be possible to compare the tree rings with the control information which could possibly indicate the exact year the tree was cut down and thereby the year of project execution. After discussion concerning fiber mats of Native Americans and other obliquely related topics, we concluded that a C-14 test offered the best use for our Oak Island fibers.

The next step which was explored involved a trip to the Missouri Botanical Gardens which was recently the subject of a feature article in the August 1990 issue of National Geographic. I inquired of these professionals as to what could be learned from our sample. Would it

be possible to determine exactly what the material was? Could the country of origin be determined? Was it possible to learn anything from this sample except dating which I had planned to do by C-14 analysis? The answer to all these questions was in the negative. It seems that there is under development a DNA type approach with plants that someday may be able to pinpoint plant heredity, but that determination is in the future and not possible today even on an experimental basis. While Missouri Botanical was not prepared to identify the material, they did, however, suggest submitting the fibers to the Tropical Product Institute located in London, England. Since our fibers had already been identified as coconut fiber (or hemp) twice by the Smithsonian, once in 1919 and then again in 1930 and one by the Botanical Museum of Harvard University in 1937, I did not feel that much was to be gained by sending this sample to London for identification.

*After two or three false starts, I contacted Beta Analytical of Miami, Florida who seemed quite prepared to perform the testing we were desirous to have done. After sending the sample to their lab, we discussed the various options that were possible. In addition, we discussed the immersion in salt water over a long period of time and I learned that this condition should serve to preserve the sample when compared to material exposed to the atmosphere. For a general discussion, please refer to "Principles of Radiocarbon Dating" as copied from one of Beta Analytics' brochures. As can be determined by my letter to Beta, our primary concern was one of accuracy. Dr. Tamers of Beta Analytic felt that our sample was quite adequate in terms of size and quality to develop an accurate date by the conventional C-14 method. Beta was aware of the anticipated date (**1585 AD**) prior to their testing.*

*The C-14 test was performed, and I learned the result by telephone on October 4, 1990. Dr. Tamers informed me that the date translated to **1180 AD** ± 60 years (1950 – 770 = 1180) and asked if I was shocked at the result. I replied that I was indeed shocked. He assured me that since he was aware of the anticipated date, he checked and rechecked his procedures and found absolutely everything to have been performed correctly and had a high degree of confidence in the result.*

We had agreed earlier to save a small portion of the sample such that we could verify the result by the accelerator method if we desired to do so at a future date with a smaller sample size. If we would like to pursue this option, it is still available but does require some additional expense, as well as a four to six months lag time since it is performed in Zurich, Switzerland.

I can visualize no other reason for the presence of coconut fiber other than its incorporation as part of the original project and until

evidence is presented to the contrary, I can only believe that it was used as a filtration mechanism by the original constructors when the project was executed. It does not appear that the fiber could have been deposited by natural tidal action, a subject which has been dealt with at length by other authors. Also, since the last ice age concluded about 12,000 years ago, it does not appear that glacial till can explain a date of ***1180*** **AD**. *It would appear that modern science is trying to tell us something – I wonder what it is? Keep Digging, Dick Neiman."*

57. <u>Letter from Beta Analytic Inc. Dir. Dr. Murry Tamers, to Richard C. Nieman. Oct. 6, 1993. Results of radiocarbon dating of "fibers":</u>

-Beta-66584 Oak Island (organics) 820 ± 70 BP (1950 – 820 = **1229 AD***)
*"(*adjusted for dendro calibration)"*

58. <u>Letter from Richard C. Nieman to Dan Blankenship. October 6, 1993. Results of radiocarbon dating of "fibers" as reported from Beta Analytic, dated October 6, 1993:</u>

"I just received via telephone the C-14 results from our recent coconut fiber test. The date is 820 years before present ± 70 years. The before present refers to prior to 1950 AD*, thus dating the sample to 1950 – 820 =* ***1130*** **AD** *± 70. This sample was physically obtained by David Tobias from Smith's Cove behind an old board wall (first section north side) and spent last 20 years or so in the island museum as sample 'S-2'.*

Beta Analytic, the C-14 lab that performed our test, indicated coconut fiber is an ideal substance to date since coconut is a growth that occurs annually. When compared to dating tree material which can grow over some considerable period of time, coconut material is much superior since a new harvest occurs every year and a comparatively accurate date may be determined. Wood from trees, on the other hand, is subject to considerable variance depending on the location of the sample. Samples, for C-14 purposes are presumed to come from the outer 20 series of rings and if that is not the case, the date could vary considerably. Or if the sample is obtained from a branch, the date of the branch could be significantly different from the outer 20 series of rings.

Beta also informs me that wood samples obtained from coastal areas are also subject to another potential inaccuracy. If the sample was obtained from a campfire, or any other application where driftwood could have been included, then the desired date could be significantly influenced.

Finally, C-14 dates as modern as 300 years are highly suspect from a scientific standpoint and are only to be used as confirmatory data,

not the only source of dating. I will forward the report when received. Keep Digging or Detecting, Dick Nieman."

The sixth document below is of the utmost importance when we forensically investigate how the coconut coir fiber found its way to Oak Island. This is also key to telling us *WHEN* & *WHO* brought them there. Though lengthy, these authors seriously contemplated scenarios of transmission, - *exactly what this book is going to prove.*

59. <u>Applicable pages of "Draft Report" by Woods Hole Oceanographic Institute (WHOI), 4-8-1996. Samples tested using Acceleration Mass Spectrometry (AMS)</u>

Page i. *"Radiocarbon age dates of two "coconut fibre samples were run. One sample was from D. Blankenship (via Oak Island Discoveries) it was dated at 765 ybp. The second sample was found in Smith's Cove by Dan Henske and D. Aubrey; it was dated at about 1100 ybp. The provenance of the Smith's Cove sample is unclear (whether from original workers, searchers, or natural deposition at the coast from ocean currents). Additional research is taking place to clarify the possible origins of this old material."*

Page 5. *"Radio carbon dating of some wood samples from borehole 202 indicated wood from a depth of 125 ft was dated to about 12,000 ybp."* [**10,005 BC**]

Page 15. *"Organic material from the beach pits was prepared for dating at the AMS facility at Woods Hole, Massachusetts. Two small jars of peat were sent to the facility for dating along with two wood samples and three samples of possible coconut fiber. Before the samples could be analyzed they had to be dried in an oven. The peat samples had to be completely homogenized, ensuring all the material from each sample would provide a mix of similar material for the analysis. The separately homogenized samples were then subsampled three times for analytical purposes for a more accurate date."*

Page 36. <u>Analysis of wood and vegetation samples</u>

"During the field investigations, several samples were acquired for further investigation, including wood samples, fibrous material resembling coconut fibre, and peat from the beach pits. These samples were investigated using Scanning Electron Microscopy (SEM), Accelerated Mass Spectroscopy (AMS), electron scanning for elemental composition, and visual methods. These methods are the most sophisticated methods available for investigation of carbon and

related materials, for purposes of age-dating, source determination, and composition detection. Samples are described in Table 6. Methods for radiocarbon dating, plus a description of their utility and accuracy are also presented in Attachment D, with the full data reports from the National Ocean Sciences AMS Facility at WHOI (NOSAMS). The NOSAMS provides markedly improved accuracy for radiocarbon dating compared to methods used previously by searchers; it also can date samples of much smaller mass (including the ability to date open ocean water samples)!"

Page 37. Peat samples:

"Peat samples were taken from beach pits on the island, as described above. Two samples were obtained: one from Beach Pit 2 (Fig. 6) at a depth of approximately 8 feet below MSL, and a second from Beach Pit 8 (Fig. 9) at a depth of approximately 10 feet below MSL. Both beach pits were along the barrier beach of South Shore, separating the marsh area from Mahone Bay waters. Beach Pit 2 peat has a radiocarbon age of 1940 years before present (YBP; about ***50*** **AD***) Beach Pit 8 peat has a radiocarbon age of 2340 YBP, or approximately* ***345*** **BC** *(at the time of Alexander the Great's childhood in Macedonia).*

Examination of the peat makes it difficult to identify visually, but we tentatively interpret it to be brackish water peat until further examination. If we assume this peat was deposited at or above sea level at the time, we can estimate the lower limit for relatively sea-level rise at this area. Since we are in a region of complex glaciation, where the land level is still adjusting to the glacial loading and unloading, we must speak only of relative sea level, not absolute sea level. At Mahone Bay, in-place deposits will mark locations only of relative sea-level change.

The beach pit 2 sample yields a minimum relative sea-level rise of 1.25 mm/yr (about 0.4 feet per century), whereas the beach pit 8 sample yields a relative sea-level rise of 1.3 mm/yr (about 0.43 feet per century). Both samples yield consistent rates of relatively sea-level rise. Though abundant uncertainty exists regarding the global absolute sea-level rise rate for the past few centuries, measurements and analysis indicate a range of about 1-2 mm/yr. The present samples are within this limit, indicating that glacial isostatic adjustment due to loading and unloading of the crust by glaciation, may be small for the past 2000 years.

If the peat samples represent deposits from above mean sea level, rather than at sea-level, the rate of relative sea-level rise will be a little faster. However, the rates will increase only to about 1.6 mm/yr or so, so this uncertainty does not alter our major conclusions.

The implications of this rate of relative sea-level rise are important for the searchers. If relative sea-level rise has been about 0.43 feet per century, then at the time the coconut fibers may have been deposited (some 800 to 1100 Years Before Present; see Table 6), then sea level was also at a lower stand: some 3.4 to 5 feet below present levels. Thus, evidence left by people working at the site during this period must be referenced to a ***sea level lower by some 5 feet****.*

Since Smith's Cove now is about 1-2 foot below MSL, what is now Smith's Cove would have been above water during the period 800 to 1100 years before present. The shoreline at that time would have been seaward of what we now view as Smith's Cove. Thus, searcher's seeking "flood tunnel" outlets and inlets would have to concentrate on areas farther seaward than where the search as focused the past century."

Page 38. Seaweed samples:

"A sample of recent seaweed was collected from the storm high tide mark along Smith's Cove. This seaweed was fibrous and resembled what some may perceive as coconut fibre. The radiocarbon age was modern, confirming its recent origin. Comparison of this seaweed, however, with the purported coconut fibre, showed it to have different morphology than the coconut fibre, and hence of no interest in interpreting coconut fibre history."

Page 39. Wood samples:

"Two samples of wood were radiocarbon dated. Both samples were presented to Oak Island Discoveries by Dan Blankenship. Their provenance is unclear. We don't know if the sample came from a log, or from worked wood. We also don't know if this was the outer portion of the wood, or the inner core. Consequently, the dating of these samples were not expected to provide much of interest. Both samples of wood dated to modern times, about 100 years ago. We compare these radiocarbon dates with previously reported dates: 1) Woods samples from Nolan's shaft shows a recent date, but one which is ambiguous because of the non-uniqueness of the radiocarbon curve (also from Beta Analytic, in 1993). 2) Another wood sample was dated by Geochron Laboratories and reported on June 3, 1969. This wood had a date of ***1575*** **AD** *± 85 years. It is clear the two samples we were given had no similarity to the Geochron lab sample."*

Page 39. Coconut Fibre Samples:

"Coconut fibre has taken on some aura of importance at Oak Island for several reasons: 1) It was found as a filter fabric, along with seagrass, at the Smith's Cove outlets for the flood tunnels, reported by previous searchers. 2) It was previously dated and stated to be old: A letter from Richard C. Nieman of St. Louis Missouri dated oct. 6 1993,

*reports a date on coconut fibre of **1229** **AD** ± 70 years. This sample was obtained by David Tobias (or perhaps Dan Henske, see Nieman letter of Sept. 27, 1993) from Smith's Cove, and reported by Beta Analytic, Inc. of Miami, Fl. A second test of coconut fibre showed an age of **1278** **AD** ± 60 years (about 715 YPB). These, coconut fibers are the one material which have been verified to be old. The coconut fibre was found underneath logs unearthed at Smith's Cove in the 1970's by Dan Blankenship and hypothesized to be original and old.*

We therefore dated two coconut fibre samples. The first, receipt #10168 (OI-3-CF2) was provided by Dan Blankenship to Oak Island Discoveries and presented to WHOI to date. The age was determined to be 765 YPB ± 35. This age is indistinguishable from the age of the samples dated by Beta Analytic and reported above. We hypothesize we must have dated a subsample of the same material.

*The second coconut fibre came from just below low tide level within Smith's Cove. It was excavated by Dan Henske in the presence of D. Aubrey and others on July 27, 1996. After dewatering the site where Henske knew the sample to be located, Dan dug down about 8 inches to find fibre which we dated. We have no knowledge of how the fibre came to the position where Henske located it; only that we sampled it on that day. This second coconut fibre sample (receipt #10167 and ID OI-5-CF3) dated to 1140 YPB, ± 30 years (or approximately **855** **AD**).*

In order to determine whether this material indeed was coconut fibre, we consulted some experts. Unfortunately, the fibre was heavily decomposed, consisting of only about 5% carbon by weight, a low percentage for most vegetative materials. We examined the photographs by Scanning Electron Microscope, a sophisticated means to examine materials at very fine scale. SEM work was performed by the U.S. Geological Survey in Woods Hole, MA. Fig. 10 shows some SEM photo-micrographs of sample OI-5-CF3."

-WHOI-3-CF2	10168 Coconut fibre	
	Age (YPB) 765	Age Error 35
	Provided by Dan Henske	
-WHOI-5-CF3	10167 Coconut fibre	
	Age (YBP) 1140	Age Error 30
	Smith's Cove, dug by DGA	

Page 40. *"We sent the SEM photo-micrographs and portions of the original fibre sample to two palm experts: Scott Zona of the Fairchild Tropical Garden, in Miami, FL, and Prof. (Emeritus) Natalie Uhl, or Cornell University. Correspondence with these two individuals is contained in Attachment E.*

Dr. Zona thought the fibers might be husk fibers of a coconut, but his comparison with modern fibers was inconclusive. Dr. Uhl has been of great assistance, but she is still continuing her investigation. She concluded that the SEM photo-micrographs do resemble fibrous bundle sheaths in palm stems. However, without the full bundle (including the xylem to check on the vessel structure), she could not be conclusive. She does not believe the material can be identified to genus and species. She is currently working with a colleague, Dr. Franciso Guanchez from Venezuela, who is a specialist on Leopoldinia, a genus long exploited for fiber. They are examining the materials at present at Cornell.

For comparison, we have taken SEM photo-micrographs of the coconut fibre at Oak Island, as well as mesocarp coconut fibre from Cocos nucifera, a coconut commonly found in the tropics (Fig. 11). Though notable similarities exist between the two types of fibers, we await final confirmation from the palm and coconut specialists.

The coconut fibre, if verified as we believe it will be, may have reached Oak Island through four primary pathways:

i) "Planted" on the island by previous searchers.
ii) Natural transport by Gulf Stream and inshore currents.
iii) Dunnage discharged at Oak Island by a previous ship.
iv) Brought and used by ancient voyagers for flood tunnel purpose.

No evidence at present allows us to discount pathway (i) above, other than Triton Associates claim of finding the fibre; we cannot discount previous searchers or others "planting" the material.

We are unfamiliar with other instances where the Gulf Stream has transported a significant amount of coconut fibre intact to a single location (ii). We are currently researching this factor, with help from Natalie Uhl and her colleagues.

We cannot discount the potential use of fibre as dunnage (iii), from a ship previously using Oak Island. For instance, a ship involved in the wood (oak) trade might have come to the island with this dunnage. Why the fibre would be so old is another matter.

Finally, we cannot discount the final pathway: ***(iv) use by ancient voyagers.*** *Perhaps the only way to determine whether this was an appropriate pathway or not is to discount the other three pathways. We are examining pathway (ii) at present; clarifications of other pathways is certain to be more difficult."* [WHOI]

And lastly…

85. "Curse of Oak Island," Season 3, Episode 11 – *Sword Play,"* Produced by Prometheus Production for The History Channel. Transcribed by Hammerson Peters in his *The Oak Island Encyclopedia*, 2019. Pages 353-355.

> *"…the vegetation Jack Begley, Dan Henskee, and Peter Fornetti dug up on Smith's Cove is indeed eelgrass, and that is was carbon dated to between **1470** and **1660** **AD**, with a 95% degree of accuracy. The Eelgrass carbon dating does not match the carbon dating of coconut fiber dug up by Dan Henskee, Jack Begley, Alex Lagina, and Peter Fornetti in Season 1, Episode 2, which was carbon dated to between **1260** and **1400** **AD**.* To make matters more bizarre, the layer of the much older coconut fiber, according to the Truro Company, lay overtop of the much younger eelgrass fiber. This seems to suggest that, if the carbon dates are to be believed, the Smith's Cove filter was constructed sometime after 1470 and the builders used relatively fresh eelgrass and 70-400 year old coconut fiber."

There are those who feel those ^{14}C & AMS testing dates must have been affected in other ways, skewing the findings to unimaginable antiquity. No one doubts the professional and expertise performed on the testing by these laboratories. And since their findings were in line with each other's outcomes the testing protocols have not been suspected.

However there are rumblings and skeptical proclamations which believe the tested specimens must have been tainted. Below are responses to the four contaminating scenarios pertinent when testing this type of organic material. They deal with chronic carbon dioxide exposure from volcanic eruptions, contamination by petroleum products, the coconut husk retting process, or the long-term saturation of saltwater underground.

Chronic Carbon Dioxide Exposure from Volcanic sources

The coconut fibers were initially found buried under three feet of beach sand on Oak Island, Nova Scotia. They were first exposed (dug up) in 1850's and the later specimens were collected from the same beach under various depths at excavations in 1990 and 1995.

Nova Scotia was created by volcanic eruptions during the Triassic Period. The closest volcanic eruption to Nova Scotia, Canada, was on March 19, 2021, over 2,092 miles away on the Reykjanis Peninsula in Iceland. Identified as Volcano #371030, or the *Krysuvik Trolladyngia Volcano*, it has had five 'ventings' at the time of this writing. Based on historical observations, it last erupted in 1188 AD.

The basic eastward movement of the wind systems (known as the westerlies) over North America is a result of the general circulation of warm air from the equator towards the pole being deflected to the right by the Coriolis effect, an inertial force caused by the rotation of the earth. These westerlies bring Nova Scotia a continental type climate and protect it from volcanic fallout from frequent eruptions by volcanos located to the east of the province, Iceland in particular. No other volcanic activity has been reported as close geographically to Halifax, Nova Scotia, Canada. It would appear if this information were complete, the beach at Smith's Cove on Oak Island in Mahone Bay would not have been exposed to any chronic output of volcanic gasses of any sort, since 1188 AD, if even then. Therefore, it would be safe to assume the buried coconut fibers were not contaminated by such event(s).

Contamination by Petroleum Products

The history of Oak Island is aberrant of facts and is based solely on anecdotal evidence, mostly through stories told. In the beginning of treasure seeking operations, mechanical equipment started off with horse power. Using a gin system, the horses walked a circular path to power operations, primarily pumps. In the Transcribed daily log of worked performed between August 1862 and March 1863,[2] coal was used to fire up the boilers which powered operations. It is not until the Restalls arrived on Oak Island where we read of barrels of oil, gasoline, and stove oil hauled ashore at Smith's Cove. In Lee Lamb's book, "*The Restall Story: Oak Island Obsession,"* she tells of the period from October of 1959 through August 1965, where the Restall family worked and operated on the island at Smith's Cove. The book covers many harrowing adventures they had of carting oil and gasoline to the island in small

boats, rafts, and other less than authorized means. Yet I found no mention in any of the dozen Oak Island books I've read, of spillage of a petroleum product either on the island itself or at Smith's Cove in particular. This doesn't in the least mean it did not happen or might have happened. All I would say at this juncture is, the below-ground filtration system at Smith's Cove was 145 ft wide along the beach. The bulk of the coconut fibers had already been removed in the 1850's and any petroleum spillage would cover a very small section of what was left of those subterranean fibers. One of the dated specimens had been collected prior to the use of petroleum on the island. It was the "museum specimen." It dated to **1130 AD**. So with this scant information and the aligned dates of the other tested specimens, I find little evidence the coconut fiber specimens were subject to petroleum product contamination.

Coconut Retting Process

I had a conversation with *BETA Analytic, Inc.*, President Ron Hatfield in August 2021. BETA Analytic Inc. who thirty years prior, ^{14}C tested the very coconut fiber specimens of which we speak. We discussed the issue of possible specimen contamination of the fibers tested. The conversation centered on the volcanic and petroleum-sourced ways the fibers could be altered in age. Then we discussed how the Old World process of retting coconut husks to produce "coir" fibers was performed. This is described at the end of this chapter. Mr. Hatfield assured me, that if the retting process was as I described, it would have no bearing on the ^{14}C dating of those specimens. He also felt the information I provided him regarding the Icelandic volcanic history, would in no way affect the fibers tested long ago. So I take that as a no.

Lengthy Submersion in Saltwater

By 1850's, when most of the coconut coir fibers were removed from Smith's Cove, it is assumed they had been there for one hundred years, two hundred years, - *perhaps even longer*. Though buried under 3 ft of sand atop a thicker layer of decaying eelgrass, there is no doubt those fibers were regularly wet or wetted by the daily tide. As coconut fibers can swell to 7, 8 or 9 times their weight

in absorbed water it could be concluded they were constantly wet with seawater. For those fibers tested in 1990 and 1995, most came from some shallow depth below sand and rubble at Smith's Cove. There they received daily bathing. So what of it. Does saltwater affect the fibers in such a way that it may alter or give a false radiocarbon dating? This answer was provided back on October 7, 1990, when Richard C. Nieman wrote to the "Oak Island Participants" in a report of his investigation. This is what he was told by BETA Analytic and passed along to the "participants"…

> *… " I contacted Beta Analytic of Miami, Florida; who seemed quite prepared to perform the testing we were desirous to have done… In addition, we discussed the immersion in salt water over a long period of time and I learned that this condition should serve to preserve the sample when compared to material exposed to the atmosphere…"*

Updates

Some new information in the radiocarbon-dating business has recently been announced, heralding considerable improvements in the science. This is not a technical improvement, but an improvement in the equations and 'calibration protocols' used with interpreting the scientific determinations of the process. This is often referred to as "Inbuilt Age." This is a term used to refer to the difference in time between the age of the sample being tested, and the time at which the organism died, or assumed to have died. This interpretative process is based on previous carbon-dating of similar samples, in similar locations, at similar times. It represents a kind of educated cataloged bias or "rounding" with assumptions scientifically drawn. Some argue this rounding or offset was occasionally inappropriately incorporated into summary estimates, called "corrected datings." They argue the elements used within this offset did not apply or were incorrect. Therefore it skews the entire body of future corrected datings applied to round out the actual tested date.

Recently, researchers, archeologists, and carbon-dating specialists have created a more advanced, and more precise way to reflect a

samples' true date. This specifically applies to specimens expected to date post 993 AD. These findings are based on the discovery and universal impact, particularly in the northern hemisphere, from 'cosmic-ray-induced' upsurges in atmospheric radiocarbon concentrations which happened in 993 AD.[3] This phenomenon had an exaggerated impact on normal carbon-dated offsets or roundings and therefore, issued 'corrected dates' on samples. This date is also used as it creates a 'marker' in time, that being the first time humans encircled the globe. This date therefore can more precisely contribute to factors and equations which previously were used to create the "rounding" of a samples age; such as transatlantic activity, transfer of knowledge, exchange of genetic information, biota, and pathologies. All of these variables had been previously worked into algorithmic calculations which helped determine the *inbuilt factors*. Those inbuilt factors were thus applied as corrected datings of radiocarbon-dated age ranges. It is abit complicated. Suffice it to say, when a sample is radiocarbon dated, the base age is one number. Yet the calibration, set to the phenomena mentioned above, creates a type of intelligent bias or factor. When this factor is applied to that given age it "corrects" the tested date, based on all which can be construed from our knowledge of history. As the "1950" date was used as the YBP shown early, due to atomic bomb testing, my leap of faith would hail the 993 AD date as another unique year for radiocarbon age.
- *This is my layman's understanding.*

Therefore this new-and-improved approach gives a hard and fast marker (993 AD). This date replaces much conjectured speculation which was previously built into that rounding analysis. Any and all factors which make up the rounding now come from a smaller and better tailored subset of historical anthropologic, botanical, and archeologic references.

Read: "*Evidence for European Presence in the Americas in 1021 AD*," by Margot Kuitems, et. al., published October 20, 2021. *Nature Magazine*. www.Nature.com.[2]

So how does this new-fangled, cosmic-ray-induced, gobbledygook effect our coconut fibers?

Notwithstanding the impact, it is time to acknowledge these fibers were ancient! Therefore, let's hope our "ancient voyagers" are as ancient as the fibers and we can track back to *WHERE*, *WHEN*, and *WHO* acquired those fibers for purposes of Oak Island constructs.

As you will read in the next section "*The Dating Game*," we examine the lengthy spread of time created by radiocarbon-dated results of five datings of specimens of coconut fibers found on Oak Island. This lengthy timeline period makes it very hard to believe someone bothered to rake up enough coconut coir fiber for a future voyage to oak island, over such a vast period which covers those corrected dates of the fibers found. Without previous knowledge of this new information, I had simply suggested rejecting the WHOI specimen dated 810 AD v 855 AD, as I felt the dates were 'outliers' of a reasonable grouping of tested materials. I called this specimen as an anomaly of the set, and suggested we look at our fiber timeline with its exclusion. As it turns out, that specimen was test dated to a period of time prior to 993 AD, (810 v 850). This sample was the only one dated prior to this new marker, highlighted in the previous updated report. This new evidence justifies my excluding it from further presentation as well as when in later chapters, we go back in time to find where those remaining specimens of coconut fiber came from. I am not sure if retesting the five samples with the new "rounding" methodology would craft an even more precise date. However, we march on in our hunt for coconut coir fiber within the timeline this book has used to track them down!

Final note… The above referenced article specifically deals with the Viking habitation at L`Anse aux Meadows in Newfoundland, and for the first time a very precise date of that community has emerged as 1021 AD. This is a very exciting find. It does impact the veracity of the Oak Island story and it is nice to hear science update and clarify evidence as they review and improve on what we see.

The Dating Game

The conclusive date for the Viking habitation ironically fits neatly with our period of Oak Island artefacts and coconut fiber datings!

Again, the purpose of this book is to help make progress in determining *WHEN* those voyagers finished their excavations on Oak Island and therefore, help lead us to answer the *WHO* and *WHY* of it all. I hypothesize the travels of the coconut can help us with this answer. In addition, the age of those drupes do drive a timeline of their own distinction. Someone poached those fibers from somewhere. Appendix J, *"History Looks for Coir,"* pinpoints the snapshot of the world when these fuzzy foreign fibers first fell.

Searchers on Oak Island have not been shy in asking experts to describe and date their mystery mangle of fibers. Yet due to experts either changing the "dates" of the specimens they tested or reporting another date in other documentation for the same sample, we are left with attaching and tracking several dates to the same known coconut fiber specimens tested. The symbol "v" is used for the word "or." (see https://en.wikipedia.org/wiki/List_of_logic_symbols)

The various *^{14}C* dating's of coconut fibers specimens date to 810 v *855*, *1185*, 1130 v *1229*, 1180 v *1278* and *1330*. There are only four of the five specimens tested, in this analysis – *1185*, *1229*, *1278, and 1330*. Each date shown is from a "range" or window of time, which is described as a plus or minus (±) of so many years. This range is created in seeking a "high probability of accuracy." The smaller the number of years in the '*plus or minus*' range – the more accurate the dating is said to be. Radiocarbon dating is much more precise the older the specimen is, with items less than 200-300 years not really testable. At one end of our tested specimens, the date **1185 AD** (WHOI #10168) has a ± of 35 years. On the other end of these dates is the date **1330 AD** (COOI specimen) and has a ± range of 70 years. So what to make of this dating data?

Looking at this collection of dates, we see a chronological timeline covering the period from **1150 AD** through to **1400 AD**, when you apply the ± range to their extremes.

[**1150 AD** + 35 years = 1185 AD to 1330 AD + 70 years = **1400 AD**]

This is an amazing time window of 250 years! To find a volume of the same organic material placed by man in two underground structures, collected over a 250 year period, begs to be impossible. This wide timeframe is gleefully approved by those who argue the material floated to Oak Island over an extensive time period; and it argues legitimacy for that novel suggestion (see *Pathway ii*).

Yet if you remove the ± extended range years at both ends of this spectrum, your window of time reverts to the dates assessed of **1185 AD** to **1330 AD**. This means these coconut fibers could have been gathered over a more realistic period of just 145 years.

[**1185 AD + 145 years = 1330 AD**]

And to show you how anyone can play with numbers, if you use the extended "plus" of the ± for **1185 AD** and the extended "minus" of the ± for **1330 AD**… you have managed to fool yourself into believing the target date is between **1220 AD** & **1260 AD**;

[1185 AD + 35 years = **1220AD** to **1260 AD** = 70 years - 1330 AD]

Perhaps you could argue the coconut coir fiber was
*New Year's Eve Party stuffing collected on December 31st **1239 AD**!*

So are we to believe one of the ancient voyagers had a stash of coconut coir fiber they stocked up in case his boat sprung a leak? They then decided to take it with them on a planned voyage – just in case the boat sprang lots of leaks? A lot of them! Or, while planning for their voyage, one sailor contacted a *Coconuts-R-Us* and ordered an extreme volume of coconut coir fiber. The seller panicked and called his supplier to see if they could obtain and provide this much coir fiber quickly. Are either of these a plausible scenario for how these ancient voyagers came across so much

coconut coir fiber? Did that supplier rake up whatever old fiber trash he and his neighbors had laying around and mixed it in with the newer fibers so they could meet that big order? You know, not every supplier practiced F.I.F.O. back then. Let's hope we keep this conversation from becoming G.I.G.O.!

What about the other plant materials found along with coconut fibers on Oak Island? - *Did they order that too?*

Manila Hemp, or Manila grass, or Eelgrass

We ought to briefly talk about the friends of the coconut coir fibers found on Oak Island. It wasn't just coir fiber announced underground on Money Pit platforms and within the Smith's Cove filtration system. Other organic matter was piled even in thicker layers in those constructs. We have heard commenters say it was East Indies Grass, Manila Grass, vegetable plants from Mexico or Japan, Manila Hemp, or Eelgrass. And botanical experts at that time qualified those specimens as Manila Hemp, a.k.a. Abaca (*Musa textilis*), or Manila Grass*, a.k.a. Zoysia (Zoysia matrella),* or Eelgrass, a.k.a. Sea wrack *(Zoestra marina). Oy!*

Manila Hemp is actually not from hemp but from the banana plant family. It is buff in color when harvested and considered one of the strongest and hardest of natural fibers.[4] Ships hawsers are, indeed, most frequently made from thick ropes made from Manila Hemp (abaca). It will not rot in fresh or salt water and is resistant to humidity.[4] Like coconuts, *Musa textilis* was used to make cordage, paper items, cloth, furniture, and many more products early in Philippine culture. Manila hemp was favored as whale line with fisherman and by the U.K and the U.S. for hanging people. It will initially shrink dramatically when first wetted. It was an exclusive native plant in the Philippines up through the early Twentieth Century. [4] Some plantations are located in Columbia, but it still primarily grows mainly in the Philippines – *which is one of the chief general regions of the coconuts origin!*

Though abaca had grown in the Philippines for centuries, Ferdinand Magellan was the first European to set foot in the island territory in 1521. Magellan's notice of abaca products and its widespread usage in Cebu, brought Manila hemp to the knowledge of Spain; which showed no interest. Magellan was killed a month later. Perhaps he had insulted a local chieftain after lapping up too much *Lambanog*?

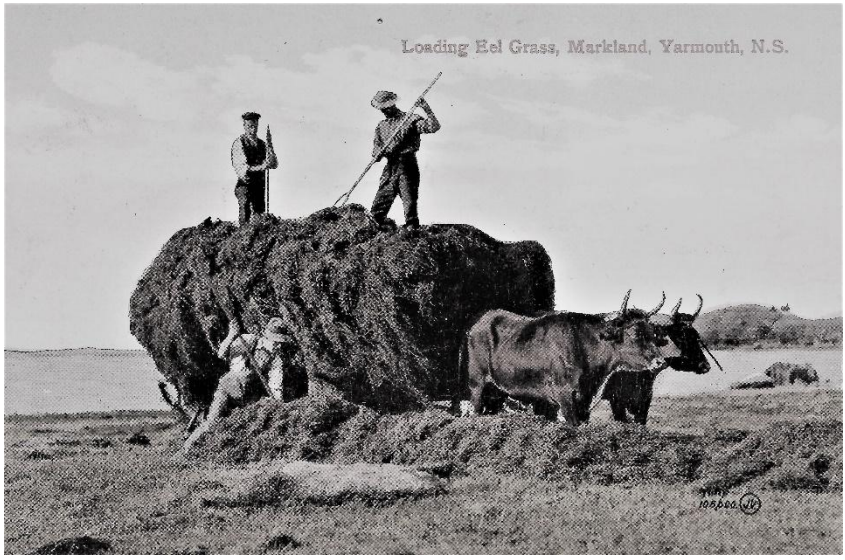
Though Manila hemp was later used to make cordage for ships, and it was used to wrap delicate packaged items, it was determined by science, not to be our 'other' Oak Island organic material.

Manila grass is a 'manila' of a different kind. Zoysia grass is a tuft grass which seems to like coastal areas, sandy places, and is quite resistant in many salty environments.[5] A fodder for cattle, it was often grown under the Coconut Tree Palms on Philippine plantations! *Are we getting close?* There are many varieties and hybrids of Zoysia, and it is a true grass. Like Manila hemp, it originally got its name from the shipping center and later, Capital of the Philippines.[5] It too, turned out not to be a companion on Oak Island.

We end up with Eelgrass. Eelgrass is quite a common plant living under the water in estuaries, tidal pools, coves, along island shores, and anywhere the sea is not constantly rough.[6] Almost everywhere does eelgrass grow. Ironically, as you read in the experts opinions in Chapter 9, eelgrass died off along Nova Scotian shores in the early 1930's due to a 'wasting disease.' It took forty years for it to recover its place in Mahone Bay.[6] Yet eelgrass was used for many things as well. Dating back to the Middle Ages, it was used for thatching homes in Denmark and Scotland.[7] North American natives ate eelgrass rhizomes as a food and used the lengthy sheaths for smoking meats. During European settlement of America, sea wrack was used for insulation as it was light when dry.[7] It is fire and rot resistant and captured small air pockets. It was preferred over straw because it did not eventually slump down within the wall cavity, like did straw. The first known example of

using eelgrass in home insulation was 1683 in Dorchester, Massachusetts, and as late as 1834 in Nantucket.[7] It too was used to pack fragile items when shipped. At low tides farmers and livestock owners would head out to the now exposed beds of eelgrass along the shoreline. They would rake the plant up and into the wagon; as one would see doing with hay. And so sea wrack was used as a fodder crop. Finally, check out "Cabot's Quilt," made from eelgrass as a patented soundproof barrier in 1891.[7]

Eelgrass (or its' marine angiosperm relatives) can be found throughout the worlds' shoreline. Those ancient voyagers probably assumed it would be growing around Oak Island when they packed up their tons of coconut coir fiber, mysterious canopied-tree sapling, red clover seed - *and headed to Island #28!*



Courtesy: Postcard owned by David H. Neisen

And this brings us to a very interesting situation. As the story goes, when the filtration system was discovered and fully exposed with the 3 ft of sand removed, a 2-4 inch thick layer of coconut coir fiber was found atop a 5-8 inch layer of rotting eelgrass.

Then over the following 150 years everybody and their digging cousins dug up, trenched through, dammed up, blew up, and bulldozed over what was Smith's Cove. Yet still, coconut coir fiber has been found with little effort below the surface of the area. *So too with eelgrass!*

In Season 3, Episode 11, Fellowship members of the Cable TV show, "*Curse of Oak Island*," were informed of the radiocarbon dating of organic material they found under the sands of Smith's Cove during the first season of the show. It was determined to be our eelgrass, and the ^{14}C date was 1470-1650 AD, or 1560 AD ± 90 years, with a 95% degree of accuracy. *Kinda old*.

Little attention was given to this scientific determination because it was so incongruous with the dates of the much older coconut coir fiber laid atop the decaying eelgrass. As you know, those coir fiber dates clustered within 1185 to 1400 AD. The conundrum seems to be the difference in ages. Should the dated eelgrass indicate when the filtration system was constructed at Smith's Cove, say 1560*ish*, then it would prove those ancient voyagers came to Oak Island with allot of ancient coir fiber. Examining the dates, the coir fiber could be as little as 70 years older (1400 youngest coir to oldest eelgrass at 1470). Or as much older as 465 years (1185 oldest coir to youngest eelgrass at 1650)! To further fog up this finding, eelgrass is everywhere around the island and within Mahone Bay. Like any other artefact at Oak Island, if it can be washed ashore, then its validity becomes problematic. As I've elucidated previously, there have been many opportunities for dead eelgrass to be washed, blown, or buried into the shore of Oak Island. Then again, is it not very odd the Fellowship found such old eelgrass? There was no mention of the degradation (decay) of that eelgrass specimen; whereas long ago and found underground, the eelgrass in the 1860's was said to be rotted. *Very odd indeed!*

One Coconut… Two Coconut… 18,089 Coconuts*!*

Digging up coconut coir fiber may not be such a novel thing in our tale if it wasn't for the provable volume that was found on Oak Island. The scientific dating of the fibers does dramatically drive up their marquis position. Yet even today as we drool over every piece of old dead wood, we nonchalantly fail to mention those fibers. Many readers and aficionados of the Oak Island legend, skeptically skip over this oddity. They seem really not able to sense or grasp the coir fibers sensational aspect to this legend. Most assume it indeed - *was dunnage.*

_____

In review, Searchers found within the Money Pit a dense mat of coconut fiber said to be 2" thick on the 60 ft oak platform. This was found by the Onslow Company's dig after McGinnis, Smith, and Vaughan had stopped at the 30 ft platform. During this 1804-1805 excavation down below the 90 foot platform searchers reported finding more coconut fiber while boring into deeper sections of the Money Pit. The exact platform or if it was multiple platforms is not our concern. So the following are the formula equations we use here to determine the minimum amount of coir fiber and number of coconuts it took our ancient voyagers to build their Oak Island construct.

FORMULA

A. The Money Pit being a 13 ft round diameter shaft, so too, would be whichever platform(s) the coconut fiber had been placed – 13 ft in a round diameter! A space of 13 ft in round diameter is equivalent to 132.732 square ft – or **132.73 ft^2.**

B. Few reports give a thickness of these fibers, but some do state it was 2 inches thick. The distance between platforms was said to be 10 ft. The weight burden of the 10 ft of refill (dry, soft glacial clay)[8] piled on top of those fibers, creates a downward force of the soil consisting of 1,060 Lbs. per ft^2.

C. Due to the impact of the weight upon the fibers, it is forensically determined a 2-inch-thick horizon of fibers found by searchers, were originally much thicker. Under this much pressure and over the time period projected it is estimated the original thickness of the coconut fibers would had to have been a 4 to 6 inch-thick layer. Most likely, this volume may have even been thicker, when originally applied to the platform. Therefore, we will conservatively assume a ratio of 1:2, and the original volume of coconut fibers placed on the platform is determined to be **four inches thick**.

D. The equation to represent the amount of coconut fiber found within the Money Pit is calculated using a more conservative interpretation of only a single platform was covered in fibers. Again, as you can see in Appendix C, *"On the Record,"* several searchers reported coconut fiber found on multiple platforms or elsewhere in much thicker volume. With a platform round diameter of 13 ft and at 4 inches thick originally, the calculation of coconut fibers equates to **44.24 cubic ft.**

E. Thus the volume of coconut fiber found in the Money Pit would be **44.24 ft^3**.

Additionally, coconut fibers were found buried within Smith's Cove beach under three feet of wet sand. Searchers were seeking the source of seawater which appeared to continually flood their shafts. They found and exposed what appeared to be a water filtration system and a potential source for the mysterious flood tunnels. This was found to be a sizeable area under the sands at Smith's Cove.

F. Once searchers for the flood tunnels removed the first 3 ft of sand, they were able to expose the hidden system. The filtration system covered an area of 7.5 ft (between high and low tide marks), by 145 ft in length along the beach. This was an area of approximately **1,087.50 ft^2**!

G. Again, 3 vertical ft of wet sand weighs approximately 390 Lbs. ft^3.[g] This would be sufficient pressure to compress +4 inches of volume of coconut fiber, over time, into the 2 or 3-inch-thick horizon reported by searchers. Using the same conservative formulation at Smith's Cove as we had just done for the Money Pit (ratio 1:2), we equate: 4-inch-thick compressed coir matting covering 1,087.5 ft^2 of area, would require **362.50 ft^3 of coconut material**.

H. Alone, these two locations of coconut coir fiber on Oak Island, will formulate the known volume of this organic material. Both volumes were artificially installed in man-made constructs. The total volume of coconut coir fiber found at these two sites is, 406.74 ft^3. [44.24 ft^3 + 362.50 ft^3 = 406.74 ft^3] or **407 ft^3.**

I. Therefore, the total volume of coconut fiber found in both the Money Pit and in Smith's Cove would be **407 ft^3**.

The task is now to translate the known volume of coir fibers found within Oak Island, into an identifiable quantity of coconuts. Since we know coir fibers are acquired through the retting process of husks from a full-grown coconut, we will turn to that process to translate our volume of coir fibers. We review several coir fiber industry sources to learn what the equivalents are in today's husk retting process. Every formula and descriptive assumption is referenced so readers can validate the equations depicted below. These are listed immediately following the end of the formulation. These and the other sources referenced in Appendix I, *"Cuckoo for Coconuts,"* provide the material to duplicate this formulation.

NOTE: Today's wide assortment of hybridization of both the *nui kafa* and *nui vai* coconut types make it difficult to determine what type of coconuts are our current wholesalers selling. Therefore, we are using industry data of bulk coir fiber operations from the most prevalent source of *nui kafa* coir fibers (India). Some data sources are from coir fiber retailers who may or may not mix fiber inventories, store their product in humid-controlled warehouses, or process multi-type or hybridized husks.

J. With that in mind, an average individual mature *Indian* coconut weighs 1.2 kg (1200.0 grams) total weight.[9] This size coconut in dry weight is 44% husk (.39 kg), 23% shell (.17kg) and 33% copra/meat (.37 kg).[9] Removed from coconut was 0.24 kgs of coco water.[9] This husk can reliably provide **80-90 grams** yield of total fiber per husk (mesocarp) once nut is out.[10, 11, 12, 13]

K. These husks are collected; and the retting process begins. After soaking, hackling, paddling, and drying, the husk fibers have been separated from the pith/peat. Coconut husks, excluding nut, are composed of approximately 70% pith or 'peat,' and 30% coir fibers in dry weight.[10]

This formulation uses the international standard *Avoirdupois System* (avdp) of mass measurement. This is based on a pound (lb.) equating to 16 ounces; and not the Troy System where the pound equates to 12 ounces. Though this system was commonly used since the 13th century it had been modified several times. The system was finalized in 1959. Therefore, the number of coconuts necessary to provide our coir fiber requirements for Oak Island today, will reflect a minor variation from that the ancient voyagers collected for their trip to Oak Island back then.

L. Equation A: A 10-ounce, or 283.5 gram coconut husk after retting, yields about 3 oz, or 85.048569375 grams of finished coir fiber.[11] The retting eliminates pentosan, tannin, pectin, fats, and leaves extractives called pith, peat, or dust.[12] Therefore, each coconut produces **85.048569375 grams** of finished fiber, weighing **3 oz**.

M. Using Alternate Equation B: On average, 1,000 coconut husks after retting, yield 90 kg of refined coir fiber.[10] 90 kg divided by 1,000 husks equals **90 grams** of refined coir fiber per husk.

N. Using Alternate Equation C: Husk weighs about 35% of the weight of a nut, containing 30-50% of fiber.[13] The yield of fiber is 10-17.5% of weight of nut.[13] Generally, 1000 husks yield about 90 kg of fiber in India.[13] Further, 1000 husks produce

31.75 kg (13.9%) bristle quality fibers, 59.0 kg (25.9%) of mattress quality fibers.[13] 90.75 kg of refined fibers, divided by 1,000 equal **90.75 grams of refined coir fiber per husk**.

O. Based on these three different equations by harvesters of volume of refined coir fibers per husk, this formula will conservatively quantify each husk produces **90 grams of fiber, per 3 ounces**.

To understand the packaging of refined coir fibers to equate volume with cubic feet, we turn to Diton Incorporated;[14] who clearly describes the best packaging formula equation. Their formula is explained below and can be found on their website at www.diton.com/coirloose.html. They are resellers of loose refined coir fibers from Kerala State, India.

P. A bale of slightly compressed (1:2 ratio) refined coconut coir fibers from Southern India, measures 25" x 18" x 12" and has a volume of 3.13 cubic feet.[14] This bale weighs 50 Lbs. ± 2 Lbs. [14] When hydrated, the coir volume of this bale, expands to 6 cubic feet.[14] The weight differential (if any) of the hydrated fibers is not included in this equation as it is not known, nor can it be obtained. Any variance in weight between the dry compressed and the hydrated fiber volume, is excluded as a "conservative variable" and not factored in. Therefore, conservatively each hydrated **bale equates to 6 cubic feet.**

Q. Oak Island was found to have a minimum of 407 cubic feet of coconut coir fiber. These fibers were believed to have been compressed by a 1:2 ratio (2 inches = 4 inches). Divide 407 cubic feet of coir on Oak Island, by 6 cubic feet (hydrated/ uncompressed coir volume per bale), equal **67.8333333333, fifty pound bales.**

R. The total weight of all 67.8333333333 bales of refined coir fiber, multiplied by 50 Lbs. each, equal 3,391.66666667 Lbs. Or **1.538434121585 metric tons.**

S. 1.538434121585 metric tons is equivalent to 54,266.666666725 ounces. This is then divided by 3 ounces [see "**L**" above [11] [12]], and this equates to 18,089 husks. **18,089 is the number of coconuts needed to generate the number of husks to process into 407 cubic feet of coconut coir fiber.**

T. Using Alternate Aquation B: Each refined husk yields 90 grams of coir fiber [see "**M**" above [10]]. The number of grams in 1.538434121585 metric tons is 1538434.121585 grams. Divide this number by 90 grams, equals 17,094 90 gram husks, or **17,094 coconuts needed to generate the number of husks to process into 407 cubic feet of coconut coir fiber**.

U. Using Alternate Equation C: Each 1,000 refined husks produce 31.75 kg of bristle fibers and 59.0 kg of mattress quality fibers, equaling 90.75 kg of total fiber [see "**N**" above [13]]. 90.75 kg of fiber per 1,000 husks, equate to 90.75 grams per husk. 1.538434121585 metric tons equates to 1538434.121585 grams. Divide this number by 90.75 grams per husk, equals 16,952 husks, or **16,952 coconuts needed to generate the number of husks to process into 407 cubic feet of coconut coir fiber**.

V. NOTE "**S**": This equation was based on 3 ounce per 85.048569375 grams. Instead of dividing by ounces, this equation uses the grams to divide. Therefore, Having determined there are 1538434.121585 grams in our metric tonnage, divide these grams by 85.048569375 equals **18,089 husks.** Verifying the same figure as shown in Q above.

W. The total number of coconuts determined under the three different formularies shown ["**L**", "**M**", and "**N**" above], equate respectively to "**S**" at **18,089** coconuts, "**T**" at **17,094** coconuts, and "**U**" at **16,952** coconuts.

X. Applying the individual weight of a coconut at 1.2 kg [see "**J**" above] to these final determinations, indicate the total weight of "**S**" at **21.7 metric tons**, "**T**" at **20.5 metric tons**, and "**U**" at **20.3 metric tons** of coconuts, respectively.

Y. ***Good question!*** Why would you want to haul around 21 metric tons of coconuts, or 1.54 metric tons of retted coconut coir fiber to Oak Island? Was there a religious significance? Was it for filtration characteristics and the water retention of the fibers? Perhaps it was knowing the organic fiber, once retted, would not rot in place, as the eelgrass reportedly did. I believe the only real use of the coconut coir fiber was to act as a screen, net, or mesh filter placed upon the thick layer of eelgrass, which was the active filtration membrane of the suggested flood tunnel system. Not so much the coconut fibers. The coir fibers would secure the eelgrass membranes to the stone containment basin below and prohibit the shifting of the sand and membrane due to tidal action, storm forces, or sluffing of the sand from the cover it provided atop the filtration system.[15] This was also its purpose on the 60 ft platform, in that there was reportedly a thick layer of blue clay-like putty substance smeared all over the oak logs of that platform. Again, like a screen or mesh stabilizer, the coir fibers would keep the putty secure and not wash off if being drenched or submerged in water. Today, coconut coir fiber is used for the same purposes. Manufactured into large mesh mats or rolls, with or without grass seed and fertilizer embedded, these mats are placed on incline slopes leading down to highways, or embankments and in coils in streams, creeks and runoff to prevent erosion. They hold the soils/seed in place and protect from other environmental factors. Their biodegradability are also an eco-friendly selling point.

Z. Based on the evidence published on the description and location of coconut coir fibers found within the manmade constructs and having determined the volume of coconut fiber found on Oak Island and confirmed by eyewitness reports; the conclusion is coconut coir fiber was an important and integral aspect of this operation. We have used multiple formulations based on the forensic evidence to demonstrate to the reader, this was an intentional endeavor.

The above formula was verified by Engineer Kyle Holden.

So let's get real. *What was all that coconut carcass doing on Oak Island???*

A final thought. Many theories abound. My growing favorite is promoted by James A. McQuiston and is well crafted for the events of the day. His books "*Oak Island: 1632*," and "*Oak Island: Endgame*" cover all bases, have historical figures known to be in the vicinity, and prove clear motives. Yet it does not explain one component and it is hard to imagine how his theory, or most other theories proffered by authors, researchers, and couch potatoes like me, can be truly viable, without explaining the coconut coir fiber. Like the 600 lb. gorilla, it is completely missing or is dismissed as the strawman argument of just being lots of dunnage. This book proves that argument is nonsensical. Therefore, I believe the true answer lay buried in the bushels and bushels of retted coconut coir fiber piled high on the beach and low in the pits of Oak Island.

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