

Archaeological Mitigation at the Black Rocks Area of Giles Quarter, Saba, Dutch Caribbean



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Image on previous page: Giles Quarter, looking east from atop the new road above the old walking trail.



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Executive Summary

- Black Rocks is a dual colonial/Amerindian site, with the most significant use and activity during the Amerindian period.
- The pre-Columbian occupations at Black Rocks date back to 3484 BC, making the site by far the oldest known on Saba to date, and now ranks among the oldest in the region.
 - The known pre-Columbian use at the site dates at least to 3484 BC – 600 AD, probably interspersed with periods of no occupation or use.
- Amerindian use of the site appears to have been as a staging grounds for fishing, with a village located nearby. This is most likely the known Amerindian village that existed in St. Johns.
 - Activities at the site were probably oriented towards sisal (cactus rope) production, especially as a means to make and repair fishing nets.
 - White volcanic ash was also harvested, at least during the very early period (3300-2500BC). This would have been used as a form of sunscreen, body paint, or to improve grip.
- Very little noteworthy activity in the immediate survey area during the colonial period, however some charcoal was dated that points to human presence there during the early colonial period (1477 AD-1642 AD). The site may have formed part of a tobacco or indigo plantation by the Dutch West India Company during the 17th century, but no evidence remains of any structures in the survey area.
- Two ship cannons were located during the maritime survey. There is no evidence of a shipwreck in the vicinity. These cannons were probably intentionally sunk, either because:
 - The ship ran aground on the reef and needed to lose weight to lift off.
 - Or prevent them falling into enemy hands.



Preface

In early 2020, ██████████ requested ██████████ to provide a desk-based assessment of the known and potential cultural heritage in the terrestrial and maritime area of the eastern extremity of Giles Quarter known as the “Black Rocks”, on the island of Saba, Dutch Caribbean. The Black Rocks area, along with a corresponding area immediately offshore, were selected to build a new harbour for Saba.

Since 1992, when the Netherlands signed the Malta Treaty, it has been required by Dutch law to have archaeological research carried out prior to disturbing the soil. This Treaty was fully implemented in the Dutch "Wet op de archeologische monumentenzorg" in 2007. The Malta Treaty stipulates in situ preservation is the preferred option for archaeological remains. When in situ preservation is not an option, it is required that the person/organization planning to disturb the soil will pay for all archaeological research that is deemed necessary. Malta Treaty-compliant archaeological excavations ahead of development on Saba have been carried out on Saba by ██████████ in 2011, and by ██████████ in 2014, 2016, and 2019.

Since seafloor disruption activities will be taking place during the construction processes, the BES Maritime Management Act requires that an assessment be made concerning the known and potential archaeological heritage of the impacted area. For this purpose, the law states that archaeological heritage includes all objects which are over fifty years old which are of general interest because of aesthetics, their significance for science, or their cultural-historical value; including areas of general interest due of the presence there of the aforesaid goods.

This report concludes with recommendations for archaeological mitigation of the Black Rocks under the Malta Treaty and the BES Maritime Management Act, as the impacted area encompasses the known archaeological site SB 015, which is a known pre-Columbian site based upon terrestrial surveys by ██████████ in 1983, and by ██████████ annually between 2011-2019.

Reason for Research

Currently, Saba’s sole harbour is located at Fort Bay. Fort Bay is one of four historical safe anchorage points on Saba, which also includes Wells Bay, Ladder Bay, and Spring Bay. Ladder Bay and Fort Bay saw the most use as they are favourably positioned to the lee of the prevailing eastern currents and waves. Ladder Bay fell out of use after all private and commercial vessels began calling into Fort Bay exclusively, as vessels could load and unload their goods at the dock without having to anchor at sea and ferry goods and people to and from shore via rowboat. In mid-2018, a preliminary design of the harbor renovation projects was completed. This primarily focused on expanding the “small pier” at Fort Bay, which is the western and smaller of two concrete piers at the harbour, to a size which exceeds the current “large pier” to the southeast, along with a larger area to shelter vessels. However, in 2019 this project was abandoned upon recommendations to build a new sheltered harbour in



the Black Rocks area of Giles Quarter. Historically, Giles Quarter has never featured in any documentation or oral history as a harbour or anchorage point, due to the prevailing easterly currents which make anchorage difficult. The currents offshore of Giles Quarter can be mitigated by breakwater structures to provide a safe and sheltered harbour. Due to this possibility, Fort Bay becomes a less favourable location for a harbour since the steep gradient of the seafloor does not provide a break for waves; the steep slopes that surround Fort Bay are in a constant state of erosion, which at times has resulted in extensive damage to the harbour and surrounding structures; and the steep road that leads from The Bottom to Fort Bay lacks sufficient drainage to prevent damaging water flows and large volumes of water-borne sediment from damaging the harbour. In comparison, there is minimal threat by hillside erosion to development Giles Quarter due to the lack of steep slopes, the seafloor offshore of Giles Quarter is a sufficiently low gradient to provide a break for waves approaching the shore, and there is presently no downhill access road to Giles Quarter to cause damaging water flows. Therefore, the funds originally allocated for improvements to the Fort Bay harbour are being redirected towards constructing a new sheltered harbour in the Black Rocks area of Giles Quarter.

Research Area and Zoning

The impacted areas are displayed on Figure 1 below. The red zone, labeled “Phase 2”, and the adjacent grey zone labeled “Harbour Area Unpaved” constitutes the approximate area of the pre-Columbian archaeological site SB 015, known as the “Compagnie Gut Site”. The nearby animal pens visible to the immediate northeast of the development constitute SB 014.



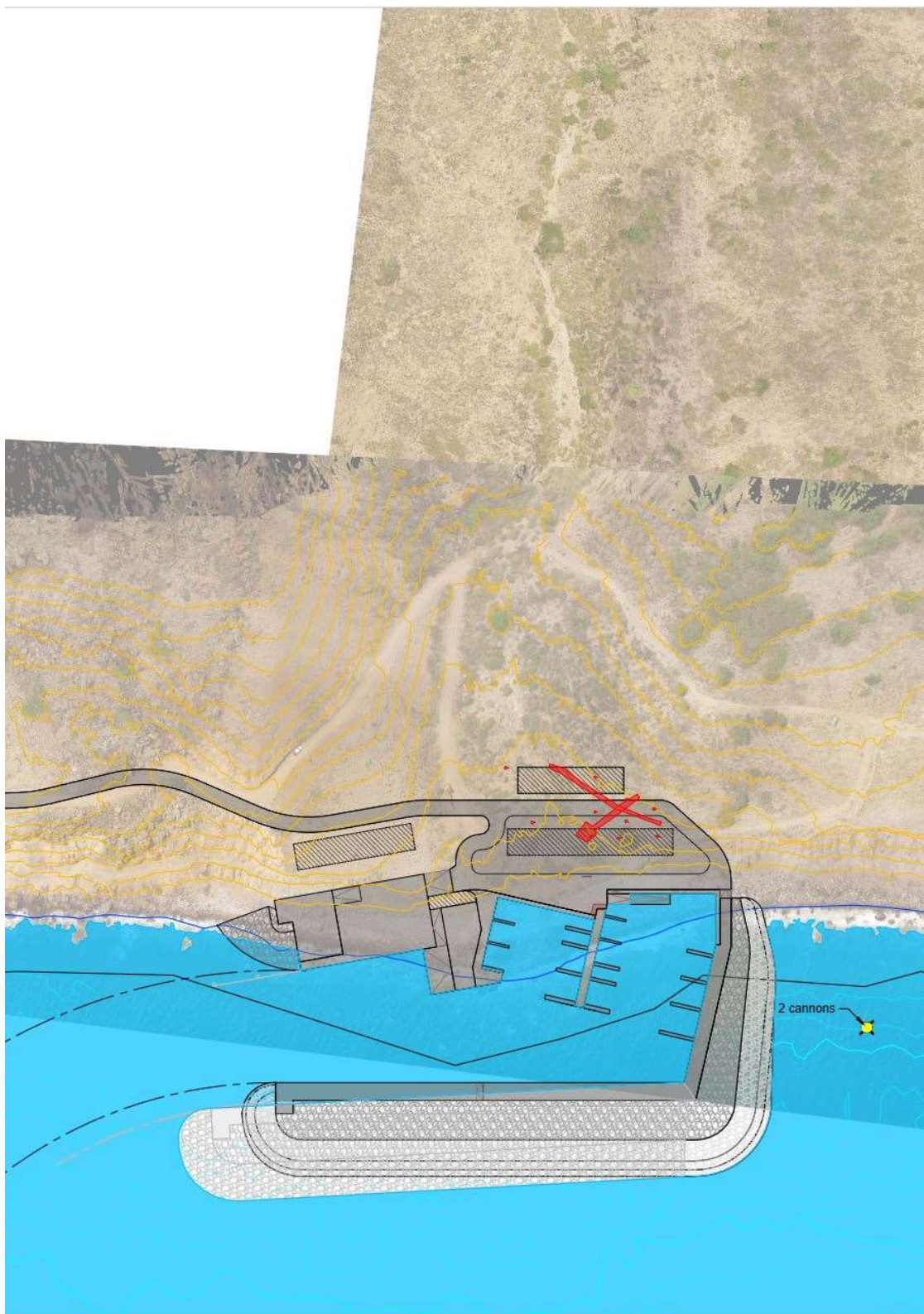


Figure 1: Black Rocks site development area, showing excavation units and trenches in red, and the location of the cannons as a yellow dot. Each yellow isopleth = 10m elevation. Map provided by the client.



As visible in Figure 2, a dirt road stretches from north to south across the “Black Rocks” area and shows a machine excavator at work. The majority of the road is a rehabilitation (leveling and clearance) of an existing dirt road. The last north-south part (in the so-called Compagnie’s gut) towards the shore followed the path of a dry riverbed that has formed as a result of large run-off. The works did not include excavations but leveling of the top layer and removal of big boulders, to allow access for pick-up trucks. It is not expected that these works have caused any damage to the site because the existing ground was already heavily disturbed and no digging had been done.

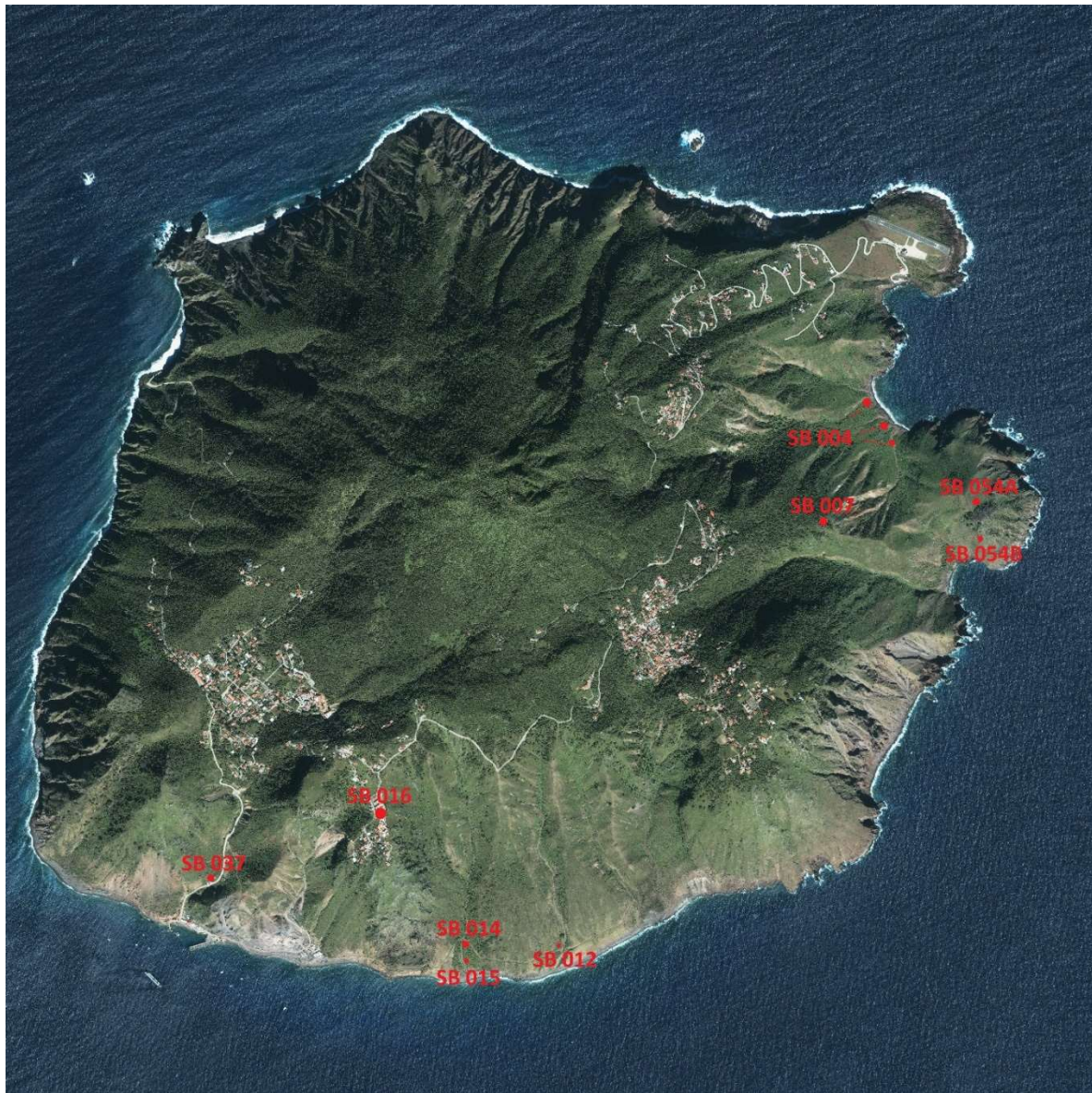


Figure 2: Satellite map of Saba showing relevant sites.



Geography, Geology, and Volcanology of Giles Quarter and Black Rocks

Saba is the northernmost volcanic island in the active arc of the Lesser Antilles group, situated at approximately 17.38 degrees North, and 63.14 degrees West, measuring around thirteen square kilometers in area, and about 890 meters in elevation. Saba is presently governed as a “Public Entity” of The Netherlands along with St. Eustatius and Bonaire, a status which began in 2010 after Netherlands Antilles was dissolved as a country. Giles Quarter, also historically known as “Jallops Quarter”, “Jalips Quarter”, and “Jiles Quarter”, is located in the south of Saba extending to the sea. It is recognized as extending from below St. John’s and the main road south to the sea, bordered in the north by the main road, and bordered in the east by Booby Hill and the Banana Gut. It encompasses an area of approximately 124 hectares. Giles Quarter is located in Saba’s coastal semi-arid zone. The vegetation consists mainly of grasses, Maraun bush (*Crotons flavens*), the Turk’s Head cactus (*Melocactus sp.*), and groves of Manchineel trees (*Coccoloba uvifera*) in the southwestern area of Giles Quarter, including the “Black Rocks”. The upper reaches of Giles Quarter consist of “lithified block and ash flow deposit”, including “minor pumicious and basaltic andesite deposits, also fluvatile reworked material” (Roolbol & Smith 2004:Plate2). The lower reaches leading to the sea, which includes the “Black Rocks” area, consist of “unlithified to weakly lithified andesite block and ash flow deposits”, including “some pumicious deposits and fluvatile reworked material (ibid). A claim for Sulphur mining in Giles Quarter was made by Benjamin Arrowsmith of the U.S.A. in 1869, but no extraction efforts took place (SVB: 1869). In 2015, the author noted a large area of dead vegetation just north and south of the southern wall that forms Tom’s Gut animal pen (SB 012), encompassing an area of approximately 10m2, about 400m east from the proposed harbour site. Subsequent surveys of the area up to 2018 noted that the area either regenerated with a single plant species or was once again a zone devoid of any vegetation. In January 2017, the author led a small team of members of the Koninklijk Nederlands Meteorologisch Instituut (KNMI) which included volcanologist [REDACTED]. She said that it was probably an area of gas release (fumarole) from one of the nearby domes such as Peak Hill or Peter Simmons Hill. Although testing would be required to determine the type of gases being released, she said it was probably carbon dioxide. The presence of this fumarole should be noted for any future developments in the surrounding area.

The lower reaches of Giles Quarter would have been ideal for pre-Columbian occupation, whether seasonal or permanent. The rocky shoreline and shallow seafloor provide excellent grounds for fishing and harvesting intertidal shellfish such as the West Indian Topshell (*Cittarium pica*), Keyhole Limpets (*Fissurella nodosa*), and “Longbacks” (*Chiton sp.*). The location is also ideal as an access point for fishing along the Saba Bank, just a few kilometers south of Saba. The gut that runs at the eastern edge of St. John’s flat may have supported a freshwater spring that breached the surface near the sea, in a similar vein to the former spring at Spring Bay. However, if it existed, has since been destroyed by coastal erosion. Nonetheless, it is expected that the gut contains fresh water that flows underground into the sea. Underground water has been harvested in this manner via a well placed at the foot of Booby Hill, at the far eastern edge of Giles Quarter. The lands that encompass



“Black Rocks” are gently sloping and would have served as an ideal settlement area. Excavations as part of this mitigation project have determined that SB 015 is indeed an Amerindian site, though as a peripheral activity associated with ropemaking and preparations for fishing, associated with a nearby main village, probably located in St. Johns.



Figure 3: Satellite map of the Black Rocks area.

Brief Historical Background of Saba

Up until these excavations at Black Rocks, the earliest Amerindian occupations on Saba date from several Archaic age (2,000BC – 500BC) sites across the island. The oldest known site is SB 054A, excavated by [REDACTED], which is a rock overhang on the western face of Old Booby Hill in the east of Saba. Radiocarbon dating of shell tools recovered from this Archaic-age site dated to approximately 1,950BC. This site is closely associated with SB 054B, which is located on top of Old Booby Hill directly adjacent to its pelean dome, and was a butchering site for the Audubon’s Shearwater (*Puffinus iherminieri*) (Espersen & Nieweg 2019). While radiocarbon dates have been pending from Corinne Hofman since 2017, it is presumed to be an Archaic site due to the absence of ceramics. The next oldest is Plum Piece, a seasonal and uniquely inland Archaic period site dating to approximately 1,350BC (Hofman & Hoogland 2003). In the early 1980’s, a pair of volcanologists radiocarbon dated a shell adze found on the upper layers of an organic ash matrix at SB 037, the Fort Gut Ridge Site (the location of the new electricity plant) to 1,200BC \pm 65 years (2004:31). The site was excavated by the authors in 2014 and it was location of a significant and prolonged Archaic-age settlement.

Ceramic-age occupation sites on Saba range from 400AD – 1400AD. Kelbey’s Ridge I and Spring Bay 1a date to the early Ceramic-age, around 400AD, and are characterized by the Cedrosan Saladoid subseries of



artifacts (Hofman & Hoogland 2003:15). The period between 800AD – 1200AD is the most intense Ceramic-age Amerindian occupation period on Saba, known from St. John's, The Bottom, Spring Bay 1b, 2, and 3 (ibid), and Spring Bay Flat (Hoogland 1996). All the known Ceramic-age sites were oriented primarily towards marine resource exploitation (Hofman & Hoogland 2003:12-13). Other Amerindian occupations appear to have spanned across the island, with several upon ridges that have since been destroyed by erosional processes, such as a site north of The Ladder in Saba's west, and a new site discovered in 2018 by the author along a cliff just east of Crab Gut in Saba's north. An Amerindian occupation at the western end of Windwardside is known from a small collection of ceramics, and other sites may possibly exist around Middle Island and The Ladder, due to small, repeated finds of red painted, burnished ceramics in these areas.

Saba was colonized by Dutch settlers from St. Eustatius around 1646, primarily due to the island's proximity to the Saba Bank for fishing. There is no documentation supporting a permanent Amerindian presence on Saba during this time. However, the island, particularly Spring Bay, was still probably frequented by Caribs for seasonal resources or for water at Spring Bay. The "Tale of Johnny Frau", an oral history account that circulates on Saba, describes a fight between a "Big Injun" and an early colonist, Johnny Frau, over the spring at Spring Bay (Johnson 2013:13). A census taken by the English in 1665 notes two Indians on the island, but they may have been Amerindians from elsewhere in the Caribbean or the north coast of South America, as they were known to have been employed or resident on European buccaneer ships for their knowledge on how survive off the land and at sea. There were already Europeans living on the island by the time the first Dutch colonists arrived, being a potpourri of English, Irish, Scottish, and French refugees following the Spanish siege of St. Christopher in 1629 (Johnson 2013; Espersen 2009). The first settlement on the island is purported to have been in the area of Tent Bay, according to oral history accounts from Sabans. This is likely given that the namesake for Fort Bay was in fact a small fort situated at the foot of Bunker Hill which was destroyed by a landslide in 1651 (Hartog 1975:17). The area was also ideal for early settlement due to its proximity to a small, potable spring at Fort Bay, and the anchorage available at Wells Bay, Ladder Bay, and Fort Bay; save perhaps for Spring Bay, no other safe anchorage exists around the island. Seventeenth century ceramics have also been found among terraces above Ladder Bay, as well as on Paris Hill, located above Tent Bay, which suggests that this area was occupied during this period as well. The Bottom would have been settled by the last third of the seventeenth century, followed closely by St. John's and Windwardside. By 1665 Saba had a population of just 226 residents. The island was captured that year by the English by the privateer Edward Morgan, uncle of the more famous Henry Morgan, in retaliation for the Dutch Admiral Michiel de Ruyter's attack on Barbados, but was returned to the United Provinces in October of the same year (Hartog 1975:23). All Dutch residents were deported to St. Maarten, except for a few families that swore an oath of fealty to the King of England. Their enslaved Africans were captured and shipped to Jamaica for sale, which indicates that sugar production was probably already active on the island before this period. The island was captured again by the English in 1672, and held until 1679, when it was again returned to the Dutch (ibid). Saba was not captured again 1781, when it was captured again by the English under Lt. James Cockburn, sent by Admiral



George Brydges Rodney following his capture of St. Eustatius. This was a turbulent time for the political and social environment of the island, as Saba experienced two major hurricanes in 1772 and 1780, the latter known as the “Great Hurricane” across the Caribbean, which resulted in over 30,000 fatalities. The former hurricane, though, was more damaging to Saba, resulting in the loss of 140 houses from a total of 180, with reports of cows being carried away from their stakes (DNA 1.05.06.13:1094-1154). This reduced many on the island to destitution, and some took to living “under rocks and caves of the earth, half naked and famishing with hunger; unable to help themselves and others by reason of the universal nature of the calamity being unable to render them any effectual relief” (ibid). It was also during this time that the earliest archaeological evidence for settlement village of Palmetto Point has been found. Saba alternated between English and French control until 1816, when it was given to the newly formed Kingdom of The Netherlands.

Saba never developed a plantation economy to the degree of the “sugar islands” of the Caribbean, due to its small size and rugged topography. The economy on Saba from the seventeenth to early eighteenth century consisted of domestic and small-scale industrial sugar and molasses production, indigo production, cotton and textile production, and, curiously, shoe manufacturing, which by 1701 nearly every adult resident partook in, including the governor (Labat 1831:208). During this time the sugar boiling houses at Spring Bay and likely The Bottom were operational, followed by those at Flat Point and Spring Bay Flat by the mid eighteenth century. Indigo production took place at Spring Bay, Core Gut Bay, Cove Bay, and Wells Bay. By the late eighteenth century only about 20% of the enslaved Africans resident on the island were labouring in sugar plantations; the rest laboured in non-industrial contexts such as domestic servants, field hands, tradespeople, and deckhands aboard ships (Saba census 1780, Will Johnson Collection; DNA 2.02.09.08:247). During the 18th century, many Sabans were actively engaged in the *Klein Vaart* (regional trade) based out of St. Eustatius (Espersen 2017:67-75), either as deckhands, sailors, captains, or shareholders in trade vessels. So many Sabans participated in the *Klein Vaart* that Saba earned an international reputation as an “island of women” (Raynal 1782:147). Sabans that remained on the island took to subsistence agriculture.

Following the hurricanes of the late eighteenth century, sugar production declined on the island, followed not coincidentally by the first documented free people of African descent on Saba by 1780 (DNA 1.05.13.1:542). By 1816 only the sugar boiling house in The Bottom was operational, producing just 25,000lbs of sugar annually, none of which was exported as it was consumed locally (DNA 1.05.06:213.2). During the early nineteenth century, the only recorded exports from Saba were live cattle (DNA 1.05.13.01:319). From around 1819 to the 1830’s, Saba participated in an illegal trade network centered on St. Eustatius involving the governors of both islands, merchants in St. Eustatius, ships involved in the African slave trade, South American privateers from the Wars of Independence, and the latter who continued plundering following the expiration of their letters of marque (Espersen 2019).

The economic state of the island continued to decline as the nineteenth century progressed, and the population continued to rise, peaking at 2,488 residents by 1915. The island was increasingly dependent on



remittances sent over from Sabans working abroad, and most residents lived day to day through subsistence agriculture, with occasional small surpluses exported regionally. Emancipation in 1863 did not change the social and economic environment of Saba as radically as was experienced in Surinam or Curaçao as most enslaved Africans were labouring under subsistence agriculture along with their owners, under somewhat less hierarchical relations than a plantation setting. Shortly after oil refineries opened in Aruba and Curaçao in the early twentieth century, Saba experienced a dramatic decline in population, reaching a nadir of just 981 residents in 1960. The development of a small tourist industry beginning in the 1980's, combined with the establishment of the Saba School of Medicine during this time, has helped the island recover economically.

Giles Quarter and Black Rocks in the Oral and Documentary Records

Giles Quarter scarcely appears in Saba's documentary record. Oral accounts of the area refer to it as an expanse of cattle pasture. This is attested to by at least four surviving animal pens across the area, along with a well by the shore at the foot of Booby Hill. The term "Black Rocks" derives its name as a place where African-descent people kept their fishing boats, since they were not allowed to keep them at Fort Bay (*, personal communication 2020). All known mentions of Giles Quarter seen by the author revolve around land purchases and leasing. At least seven appraisals and lots of land were sold between the late 18th and late 19th centuries. The earliest dates to 1784, wherein James Hassell Jr. purchased land from his late father's estate "in Jalop Quarter joining the Company's land" for 40 pieces of eight¹. The following year, in 1785, the estate of the late Peter Mardenborough included a large piece of land in "Jalips Quarter" that was appraised at 110 pieces of eight²; this probably represented the largest single property in the region. Peter Mardenborough was counted among Saba's upper class during the 18th century³, and therefore this property may have been a small plantation, perhaps for cattle, tobacco, or indigo. A tract of land in Giles Quarter was sold by Joanna E. Hassell to Peter John Hassell in 1816⁴, followed by the sale of a spot of land in Giles Quarter in 1835 by the late Moses Leverock to Henry J. Hassell⁵. In 1839, Saba's Gezaghbebbber (Lt. Governor) Edward Beaks Jr. sold off a large tract of land "...situated in the Southern part of this Island, call'd the Company's land, and which had been considered by all former Governors as belonging to the Crown...". He had it divided into eight lots for auction, and together they were sold for 1,059 guilders, "an amount much beyond its real value"⁶. This is an exceptional amount of money for a land sale on Saba; from all recorded land sales in the Saba Vendue books from 1780 to 1869, the highest sale was for 430 pieces of eight to purchase "The Great Level" on 7 November 1816, and 400 pieces of eight for an appraisal on

¹ DNA 1.05.13.01 #542:16 June 1784.

² DNA 1.05.13.01 #542: 20 May 1785.

³ Espersen 2017:92, 95.

⁴ SVB: 1816 (day/month illegible).

⁵ SVB: 10 Feb 1835.

⁶ NAC 103 RT: 9 January 1850.



20 May 1785 for “Break Hart Hill”, part of the aforementioned Peter Mardenborough. The Company’s Land was probably a plantation in its original state, or at least a site intended for a plantation, and owned by the Dutch West India Company given its name. In this case, the plantation likely dates to the last half of the 17th century. The original sale of the Company’s Land in 1839, along with descriptions of the lot divisions, are transcribed in the Appendix⁷. The eighth lot may encompass part of the “Black Rocks” area. The cave repeatedly mentioned as a reference point in the lot divisions was the same one mentioned previously that was located below the Comprehensive School, and collapsed sometime in the late 1970’s or early 1980’s.

The proceeds of the sale of the Company’s Land were used to fund the construction of a new prison that year “to house the criminal John Every”, who had shot and killed the enslaved African Wenter for theft of his potatoes on Christmas eve of 1835.⁸ Funds were otherwise unavailable to pay for this expense. The sale of the Company’s Land had attracted the attention of colonial officials as it was apparently Crown land. In 1850, the matter was brought up to the governor of the Dutch colonies in Curaçao. According to Beaks, the tract of land was originally under the ownership of a single individual, but it had remained unclaimed by the proprietor for over fifty years. Two former Gezaghebbers of Saba, Richard Johnson and Henry Hassell, signed a letter to the Governor of Curaçao in 1850 claiming that they had never known that it was Crown land, and owner of the Company’s Land had left it “for the benefit of the inhabitants of this Island”. This fact had also been “understood by our fathers”⁹. This was preceded by a similar letter signed by 117 heads of households on Saba, also stating that they had no objection to the sale¹⁰. Beaks admitted to the Governor that he was not aware that he could sell unused Crown land and claimed that the purchasers of the divided tract were willing to accept refunds to restore the lots to its original state. The matter was brought before the court in St. Eustatius, but the verdict is so far unknown. As previously mentioned, Giles Quarter was part of a series of claims put forward on tracts of land across Saba during the Sulphur mining rush of the late 19th and early 20th centuries. The claim was put forward by Benjamin Arrowsmith in 1869 after negotiations with landowners, but outside of prospecting, no mining appears to have taken place.

⁷ SVB: 7 June 1839.

⁸ DNA 1.05.13.901 #540:24-25 December 1835.

⁹ NAC 103 RT: 31 January 1850.

¹⁰ NAC 103 RT: 17-18 January 1850.



Terrestrial Archaeological Features at Black Rocks

This site is located in the western extremity of Giles Quarter formerly known as the “Company’s Land”, centered around the first large gut that extends up to St. Johns (referred to as Compagnie’s gut). In 1983, archaeological surveys of SB 015 by Jay Haviser noted Amerindian ceramics with red paint, *Strombus sp.* shells, stone celts and celt fragments, *Cittarium pica* shells, *Chiton sp.* shells, black chert debitage, and a green andesite polished celt with knapping scars. Archaeological surveys of the site between 2011 to 2018 by the author has noted repeated finds of shell adzes made with modified *Strombus gigas*, along with Antigua flint fragments, grinding stones, and Amerindian ceramics. This site has the most concentrated scatter of Amerindian artifacts in Giles Quarter, though ceramic fragments have also been found close to SB 012. These probably represent the remains of a seasonal or permanent Ceramic-Age Amerindian settlement. In 2015, the author labelled a map of all known and potential archaeological sites on Saba for the Argeograph Company, and this was published as a wall map intended for use by land management agencies on Saba (De Waal et al. 2015). The map includes SB 015 and the surrounding area as a known archaeological site, and an area with high archaeological expectancy. This map is attached as Appendix B. A 2015 pedestrian survey and surface collection by Ryan Espersen found red-painted ceramics from the Late Saladoid period, Antigua flint, two shell adzes made from the queen conch, and one unmodified lip of the queen conch. These are reflective of the artifacts recovered from this project’s mitigation excavations.



Figure 4 (left): Three sherds of red-painted ceramics that are very diagnostic of a Late Saladoid (400AD-600AD) occupation at SB 015.

Figure 5 (right): One unmodified lip of the queen conch (*Strombus gigas*), on top, along with two lips of the queen conch modified into adzes, below.

Since the “Black Rocks” encompass the southernmost reach of the “Company’s Land”, which was probably a former plantation owned by the First or Second Dutch West Indies Company, it is possible that the remains of a plantation may have existed in the area. Given the extensive industrial structures required for a sugar



plantation, and the necessity of a permanent water source and associated soaking vats for an indigo plantation, it would probably have been associated with either tobacco, cotton, or cattle.

Previous Maritime Archaeological Research at Black Rocks

In November 2014, a side-scan sonar survey around the shallow waters of Saba from approximately 10m to 70m was conducted by [REDACTED], [REDACTED], and [REDACTED] using a Tritech Starfish 450f. This included the seafloor offshore of the Black Rocks from a depth ranging between around 10m to 20m, with a span of 50m. A sample profile of the survey covering the western portion of Giles Quarter is depicted in Figure 5, showing no discernable features to the port and starboard. No archaeological features were noted during this survey; however, sedimentation processes may have obscured any features that were otherwise present during this survey. Due to the lack of maritime-related activities during the colonial period in this area outside of fishing, there is a low expectation for underwater cultural heritage.

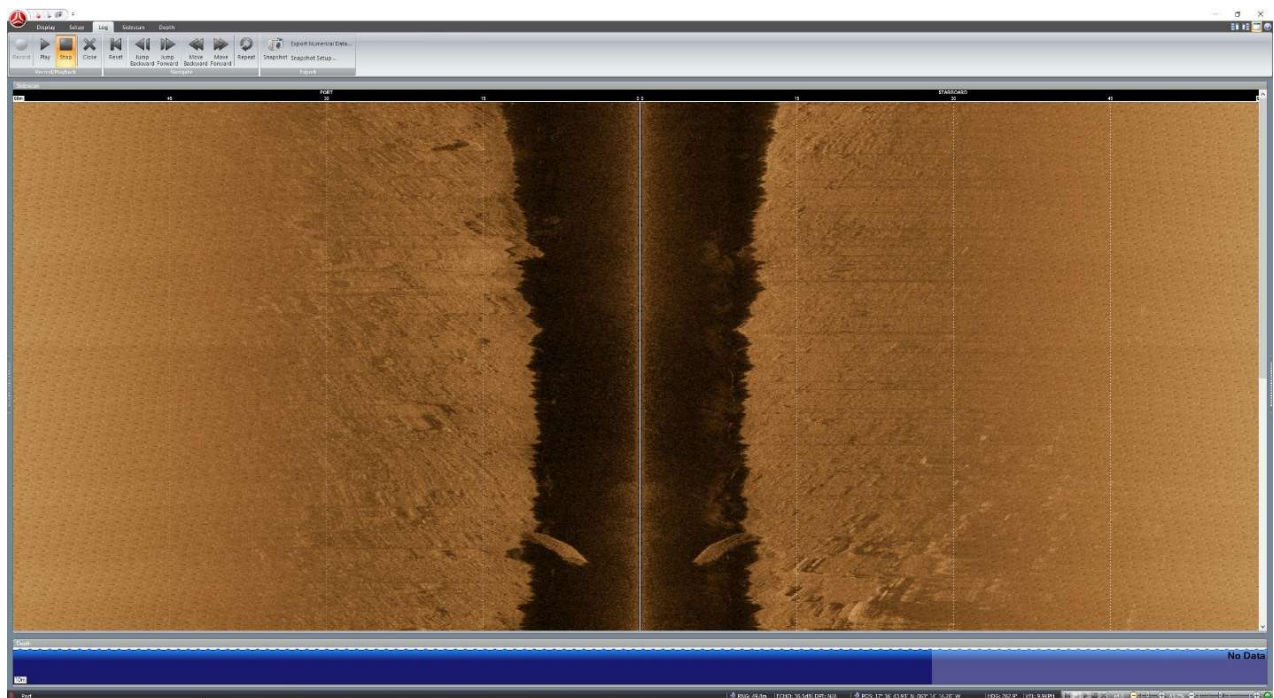


Figure 6: Bathymetric profile of an offshore section of western Giles Quarter, centered at 17°36'45N, 63°14'12W, with a heading of 268.2°. The dark area in the center is the acoustic “dead zone” below the survey vessel.



Archaeological Fieldwork Procedures

Archaeological fieldwork, throughout the entirety of the project, was carried out by [REDACTED] and [REDACTED]. The archaeological survey at SB 015 proceeded by walking transects across the impact area of the development to make a surface collection of artifacts on October 7, 2020. This started from the southwest corner of the site and eventually ending in the northeast. Moderate densities of pre-Columbian artifact concentrations were noted in the central part of the development zone, just east of the small wash gut, along with the area surrounding the manchineel tree. Very few artifacts were found on the west side of the small wash gut. Few colonial artifacts were found except for a few sherds of 19th century case bottles and stoneware bottles, probably associated with animal husbandry from nearby animal pens.

Based upon the results of the surface collections, a series of ten one meter by one meter (1x1) test unit (T.U.) pits were placed across the development area, concentrated mostly in the area east of the small wash gut, excavated between October 8 to October 17. These were excavated by 10cm arbitrary intervals in order to assess changes in artifact types and concentrations over time, along with their associations with different soil layers and geologic events. This procedure also provided a means to reliably obtain in-situ samples for radiocarbon dating to date the range of pre-Columbian human activities at the site. All excavated soil was sifted with a 3mm plastic mesh and all artifacts found were stored according to the context in which they were found. All completed 10cm intervals of each unit were photographed with a Sony A7RII camera with a 12mm wide angle lens. Soil samples of site-defining layers were collected.

After the test unit excavations were completed, a large machine excavator with a flat-bladed bucket proceeded to excavate two intersecting trenches approximately 25m long across the area east of the small wash gut. The first excavator trench, termed Excavator Trench A (ET.A), removed 40cm of topsoil to the approximate depth of the soft tuff layer. The removed soil was deposited to the south side of ET.A. The second excavator trench, termed Excavator Trench B (ET.B), was first stripped of 40cm of topsoil across the length of the trench, which was deposited on the south side of the ET.B. Then, approximately another 150cm of soil was removed which was deposited on the opposite side of the trench. The 190cm-200cm level was the resulting bottom of the excavator trench as it was composed almost entirely of a single, solid rock mass. The machine excavator was supervised by [REDACTED] as it removed soil to ensure that artifacts were recovered in-situ, if possible. [REDACTED] proceeded to remove artifacts from the spoil piles deposited to their respective sides of the trenches. Soil samples were taken from defining layers of ET.A and ET.B. Excavator Trenches A and B passed through T.U. 4 and T.U. 6. A site map is shown on Figure 8 below.



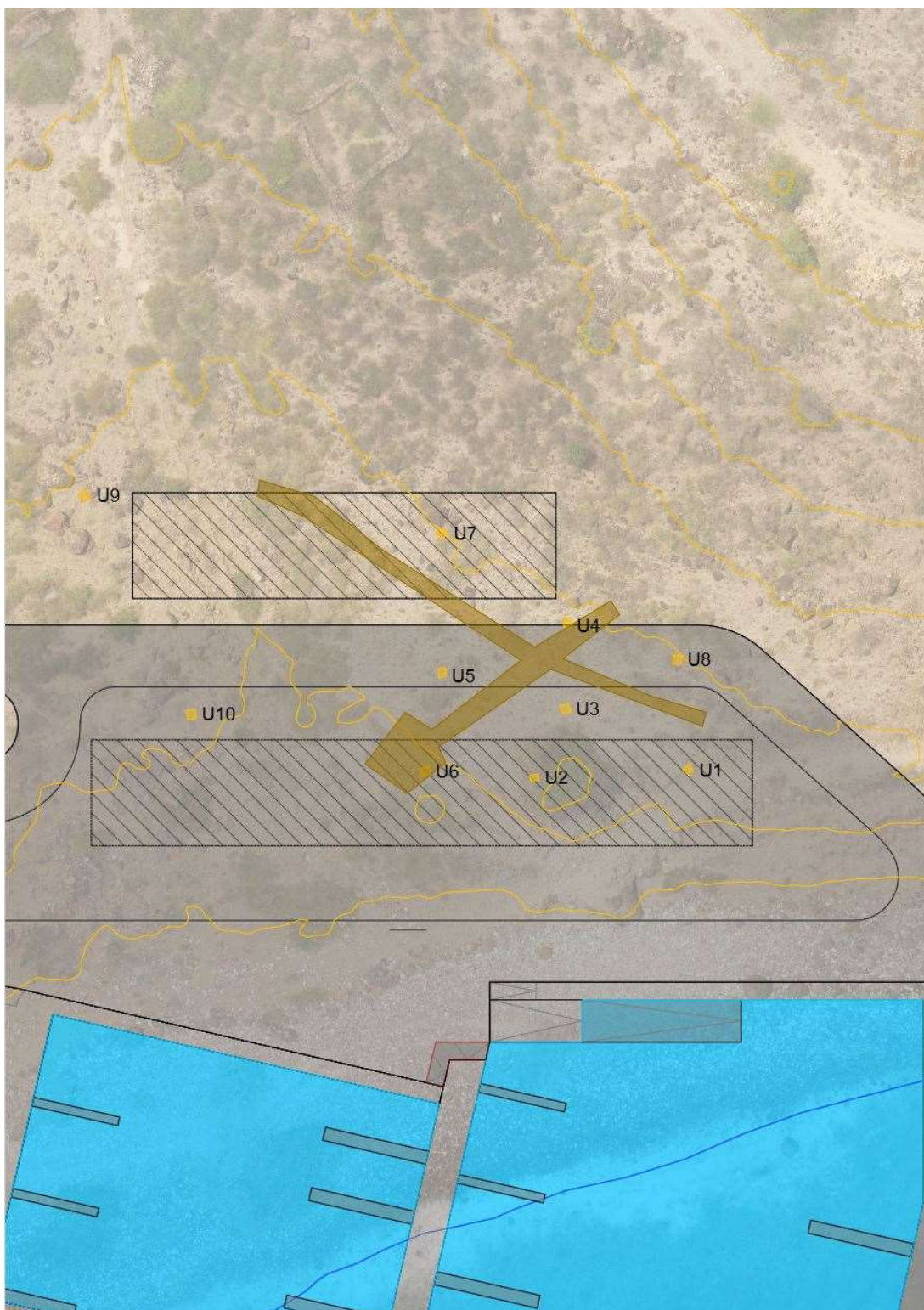


Figure 7, Black Rocks area showing excavator units and trenches.

Site features were mapped with a Trimble GeoXH 6000 centimeter-edition differential GPS with a Zephyr II antenna. This provided up to 3cm accuracy for recording site features such as the corners of excavation units, the



location machine excavator trenches, and to map the locations of large artifacts such as stationary grinding stones and water rocks.

Artifacts were processed at the quarantine apartment in the Promised Land, which doubled as an archaeology lab due to the COVID-19 quarantine restrictions. All artifacts except for stone tools associated with grinding and textile production were washed in water. All artifacts were weighted, and artifacts that were significant towards the site's interpretation were photographed with a Sony A7RII camera with a 30mm macro lens, mounted to a photo board and lit with LED lights.

The offshore area that will be impacted by the jetty's construction was surveyed by [REDACTED] and [REDACTED] of the Saba Conservation Foundation on 22 October. This was done by scuba diving visually inspecting the seafloor, separated by 10m and swimming in alternating lines west to east, then closer to shore east to west. The survey was recorded on video with a GoPro Hero 6. Two ship cannons were located together during the survey. Their approximate location was ascertained relative to the shore, and their location was recorded with the Trimble GeoHX 6000 via its internal antenna to an accuracy of around 30cm.

Geological Results of Excavations

Six distinct soil horizons were noted across the development area during the process of archaeological excavations. The surface layer consisted of a sandy loam, which in limited areas closer to the manchineel tree occurred as a more rich, loamy sand. The layer below this, typically by 15cm, transitioned to a sandy clay. These two layers featured the largest concentrations of artifacts. Usually around the 40cm level, the sandy clay quickly transitioned to tephra, composed mostly of cobbles less than 1cm in diameter within an ashy matrix. This deposit was interspersed with unsorted deposits of basaltic andesites, usually 30cm in diameter, but sometimes up to 100cm. Except in one circumstance, described below, no artifacts were found below 40cm. By around 60cm, this layer transitioned into a semi-concreted tephra with dense deposits of unsorted basaltic andesites in an ashy matrix.

The two exceptional layers among these otherwise standard deposits was a layer of tuff that was exposed at the southern extreme of the site, which was a cross section of soil cut during the road construction in the 1990's, and since partially eroded. The tuff consisted mostly of a very densely packed, unsorted, large (>20cm diameter) basaltic andesites that were concreted together. Notably, there was no ash visible in this layer, in contrast to the tephra layers that otherwise define the extent of the site.

The second exceptional layer consisted of a lens of white volcanic ash, which was limited to the western extent of Area II, and transitioned from the semi-concreted, ashy tephra. This was noted at both western extents of E.T. A and E.T. B. Some shell artifacts were noted at depths below 40cm within this volcanic ash lens at the western end of E.T. A., which will be discussed in the next section.





Figure 8: The western extent of E.T. B., showing a section of sandy loam that directly overlaid the deposit of white volcanic ash.

Archaeological Fieldwork Results

Archaeological surface collections and surveys at the site produced a total of 523 artifacts, with the large majority composing the pre-Columbian artifact assemblage, and only 37 dating to the colonial period. A relatively equal proportion of artifacts were recovered from the surface collection, the hand-excavated units, and the machine-excavated trenches, shown on Figure 10, along with specifics on Figure 11 which follows.



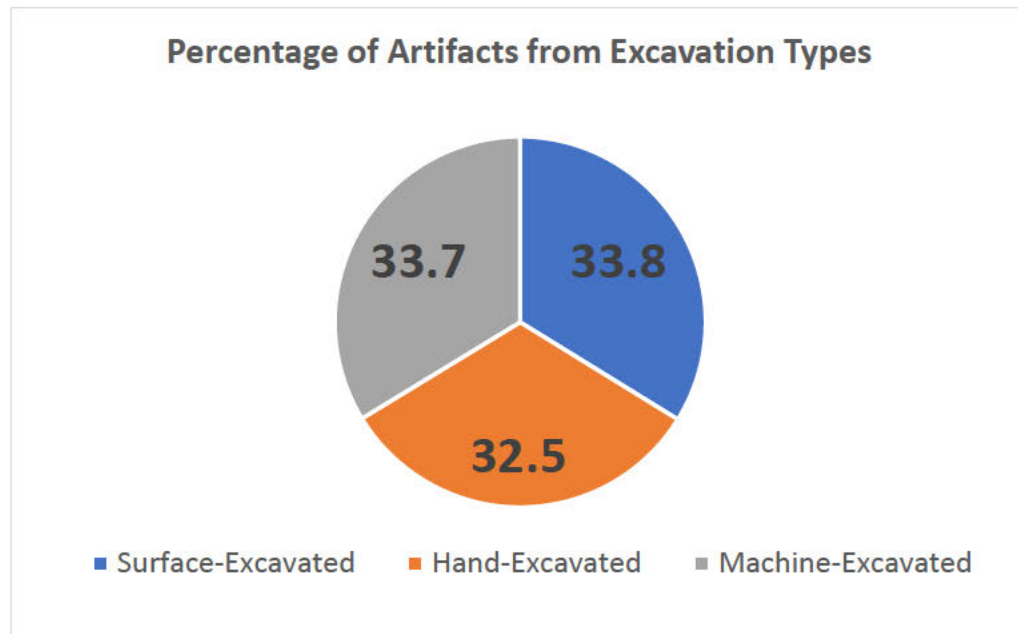


Figure 9

Material	SURFACE-EXCAVATED		HAND-EXCAVATED		MACHINE-EXCAVATED	
	Count	Weight (g)	Count	Weight (g)	Count	Weight (g)
Ceramic	56	751	46	441	39	906
Shell	42	5,610	29	459	56	3,612
Stone	26	11,927	52	3,772	45	22,543
Coral	26	2,230	32	422	33	4,763
Colonial	25	1,189	9	68	3	406
Faunal	2	1	2	1	0	0
Sub-total	177	21708	170	5163	176	32230

Figure 10: Artifacts by type and excavated context.

A distribution of artifact types are listed on Figure 12 below. The large majority of artifacts were derived from the pre-Columbian period. The Amerindian ceramics (n=141) demonstrates a Ceramic-Age Amerindian occupation, though their number and proportions to other artifacts are not indicative of a village or seasonal habitation. Relatively equal proportions of shell and stone tools were found. Most striking about the assemblage from SB 015 is the complete absence of any faunal remains. This is unusual for a pre-Columbian site and indicates once again that the site was used for specialized activities beyond subsistence and lodging.



PROPORTIONS OF ARTIFACT TYPES				
Material	Count	Count Proportion	Weight (g)	Weight Proportion
Ceramic	141	27%	2,098	3.50%
Shell	127	24.30%	9,861	16.40%
Stone	123	23.50%	38,242	64.60%
Coral	91	17.40%	7,515	12.70%
Colonial	37	7.10%	1,663	2.80%
Faunal	4	0.70%	0	0.00%
Total	523	100	59,379	100
*note: weight of largest eight grinding stones not included in total				

Figure 11: Total proportions of artifacts by count and weight

Surface collections resulted in an assemblage of artifacts in rough proportions to the overall site collection outlined in Figure 11. Notable finds included 9cm-wide basalt fishing net weight (Figure 13). It was ground down on both sides, and clearly featured a drilled hole near the top.



Figure 12: Basalt net weight recovered from surface collections in Area II.

A similar artifact to this basalt net weight was recovered from the Whitehead's Bluff site in Anguilla, which dates to 3680BP. A sample of these recovered artifacts is shown below on Figure 14 (Crock 2019:70), of which artifact "e" is nearly identical in shape and dimensions to the net weight from Figure 9:



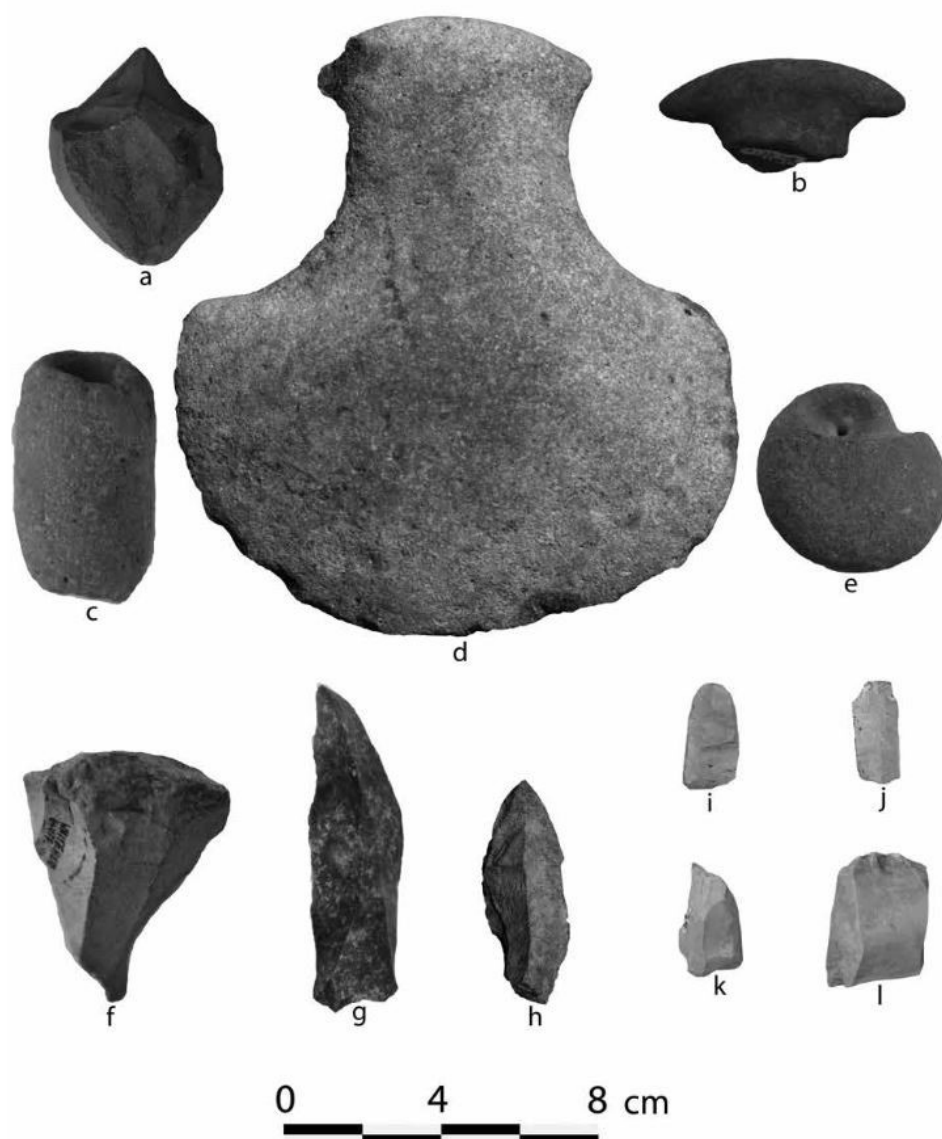


Figure 5.1. Archaic Age lithic tools and ornaments from Anguilla and Dog Island: (a) flaked- and ground-stone “punch” tool from the Whitehead’s Bluff site; (b) ground-stone axe fragment from the Whitehead’s Bluff site; (c) ground-stone axe from the Flowers Avenue site; (d) ground-stone “bead” from the Whitehead’s Bluff site; (e) ground-stone ornament from the Whitehead’s Bluff site; (f) chert blade core from the Whitehead’s Bluff site; (g) chert blade from the Flowers Avenue site; (h) limestone blade from the Dog Island site; and (i-l) small chert cores from the Whitehead’s Bluff site.

Figure 13: Sample of artifacts from Whitehead’s Bluff site, Anguilla (Crock 2019:70).

Most artifacts from the test units were recovered from Levels 1 (0cm – 10cm) and 2 (10cm – 20cm), with just under half (45.4%) from the first level, and one third (33.5%) from the second. Two test units (T.U. 9 and T.U. 10) from Area I produced very few artifacts, consisting only of one sherd of creamware (dating between 1762-1820),



one green glass sherd, and a small piece of coral. T.U. 9 was located within a conspicuous semi-circle of boulders, which provided some shelter for sediment from erosion from wind and rain. The unit was excavated to a depth of 60cm and yet no artifacts were found outside of level 2 (10cm – 20cm). The tephra layer was encountered at a depth of 40cm at T.U. 10.

Area II produced by far the most artifacts both from surface collections and excavation units. Test Units 1 to 3 were placed around the north half of the manchineel tree at the south end of the site, but despite the relative abundance of artifacts on the surface of this area, these units themselves produced comparatively few artifacts. Test units 4, 5, and 6 were far more fruitful. These were located closer to the small gut. Between them, a diagnostic range of artifacts for the site's pre-Columbian activities were recovered. This included 34 grinding stones; two hammer stones; one large, flat grinding stone; a large stone that was slightly concave on both sides that was probably used as a sort of lap anvil; two flakes of chert; 20 ceramics including one griddle sherd that showed an impression from a woven reed mat; three shell celts; and at least 4 pieces of coral showing usewear, with an example in Figure 15 on the following page. The tephra layer varied between the units; starting at 40cm in T.U. 4, 30cm in T.U. 5, and 20cm in T.U. 6.

Test units 7 and 8 were the easternmost and northern most units in Area II, respectively. They produced similar artifacts, along with notable examples such as a pre-form for a net weight from level 4 of T.U. 8, and fire-cracked rock from level 2 of the same unit.

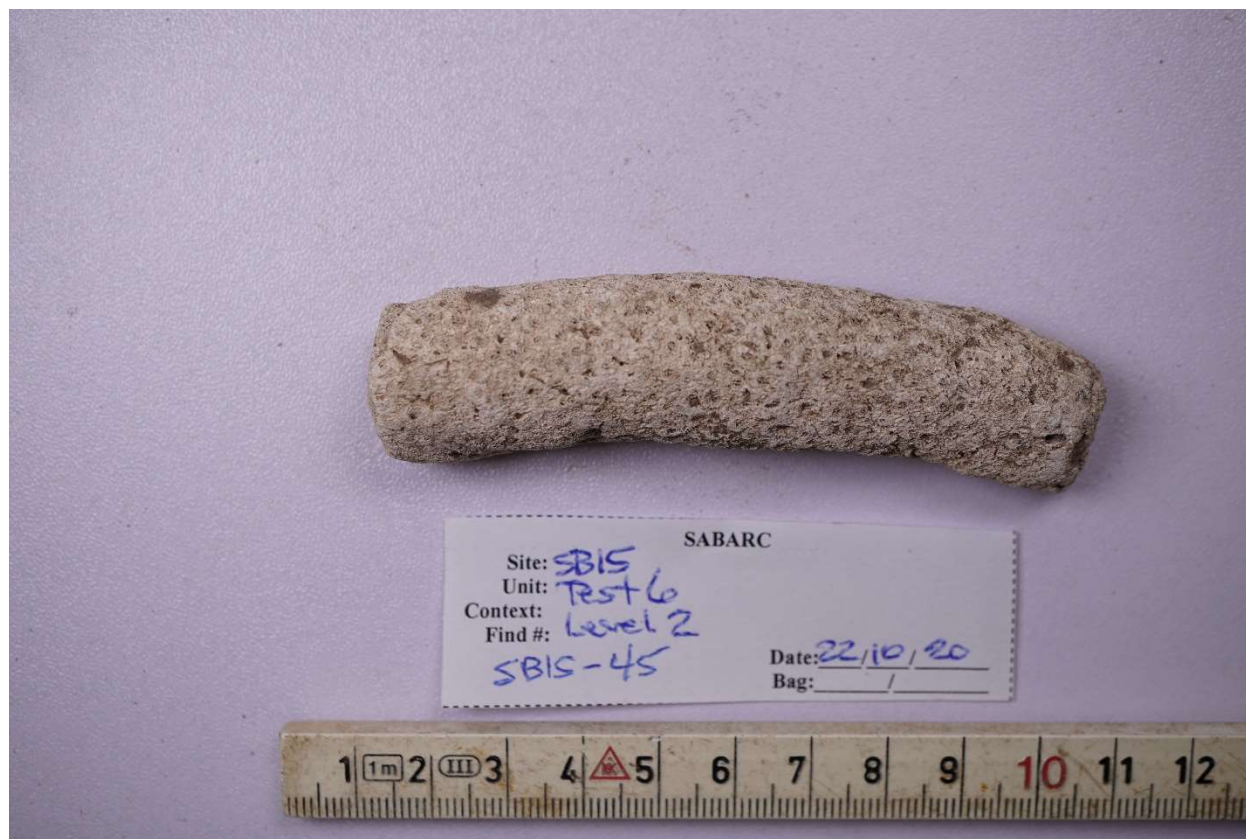


Figure 14: Staghorn coral fragment, showing usewear, from T.U. 6, level 2 (10cm-20cm).



The excavator trenches produced the most artifacts due to the sheer volume of soil removed relative to the test units. The artifacts were recovered in types proportional to the overall assemblage, and produced some notable examples. An extremely well-polished and smooth grinding (or polishing) stone was found, which was so finely worn that it had a sheen. E.T. A also produced a large, andesitic “water rock” that showed heavy usewear along the rim of the depression, indicating that the bowl was used as a container for repetitive grinding (Figure `6).



Figure 15: Basaltic andesite showing natural hollow with usewear on the rim

Another large, flat basalt stone was found with a heavily-worn notch on both sides that formed a blade. This could either be the result from shaping and sharpening shell adzes, or perhaps for splitting strands of sisal from local agave (*Agave karotto*) or the pinguin cactus (*Bromeliaceae sp.*).





Figure 16: Large, modified basaltic andesite stone with depression on either side to form a blade, from E.T. A.

A cobble of creamy white flint with red marbling and nodules was found at the eastern end of Trench B. This pattern in flint is only known in the region from a specific deposit in southwestern Puerto Rico from an area known as Las Palmas (Knippenberg 2006:288). Also from this same section, a shell cup was found, made from the hollowed-out spine of a queen conch (*Strombus gigas*).



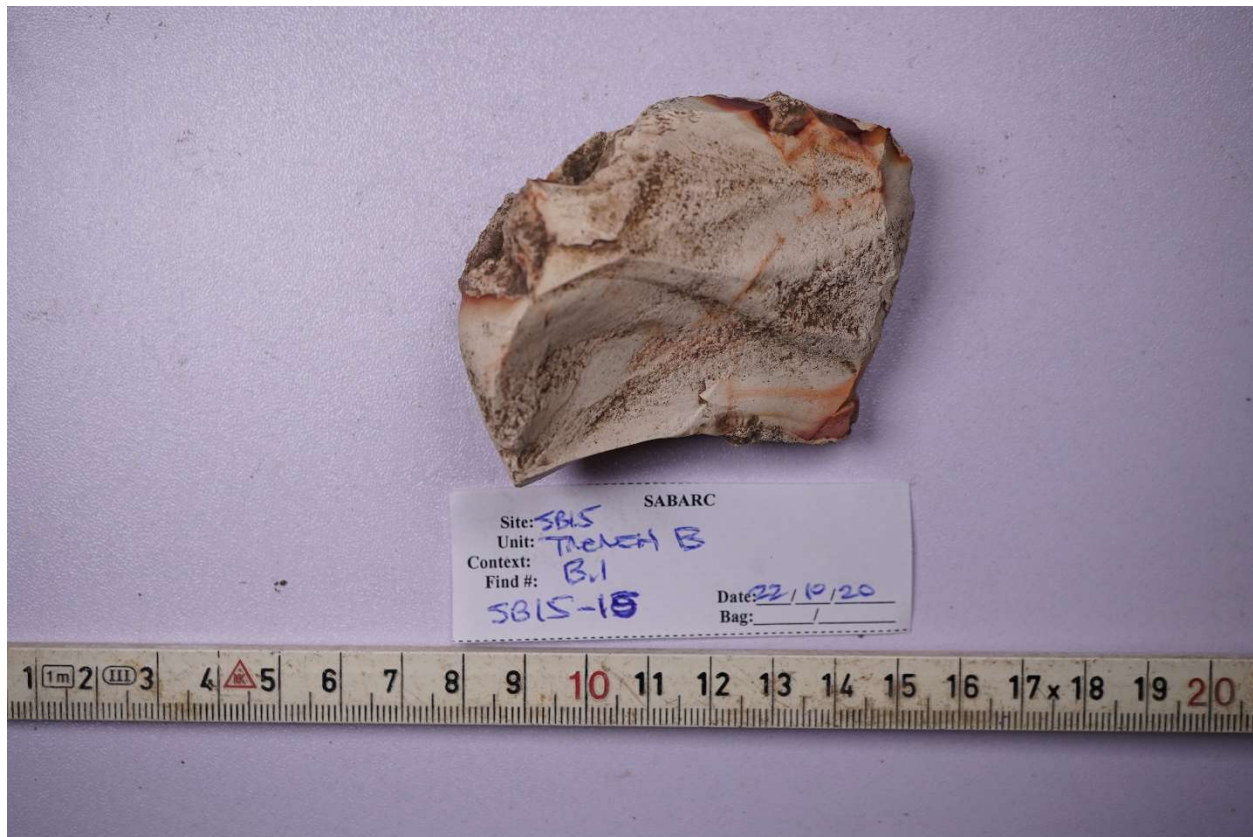


Figure 17: Cobble of white, red-marbled chert from Las Palmas, Puerto Rico, recovered from E.T. B.

As mentioned in the previous section, the western extent of Area II featured a lens of white volcanic ash that was exposed at the western end of both E.T. A and E.T. B. A four-meter section of exposed white volcanic ash at the western end within E.T. A was excavated to understand this deposit, and to check for evidence of human activities relating to this deposit. This excavated section was called Feature 1. The white ash deposit began in this instance at 55cm and was excavated to a depth of 85cm. Within Feature 1, 13 shells were recovered including one shell celt, one ground lip of the queen conch (*Strombus gigas*), one *Cittarium pica* shell modified as a sort of scoop, one shell showing non-descript human modification, and nine other shell fragments. One of the modified shell fragments was saved for C14 dating.





Figure 18: West Indian topshell (*Cittarium pica*) modified into a scooping tool, found within Feature 1.

Radiocarbon Dating Results

Five samples recovered from secure contexts within the hand-excavated test units were submitted to Beta Analytic for radiocarbon dating. Samples were taken from each of test units 1 through 5. The results are listed on Figure 20 below.

RADIOCARBON DATES, SB 015 (via Beta Analytic)				
Unit	Material	Conventional Age	Calendar Calibration	Notes
T.U. 1	Modified shell	4800 +/- 30 BP	3283-3009 BC (95.4%)	Lithic Age Amerindian
T.U. 2	Modified shell	4980 +/- 30 BP	3484-3317 BC (95.4%)	Lithic Age Amerindian
T.U. 3	Charcoal	110 +/- 30 BP	1802-1938 AD (65.6%)	T.U. 3 most probable date
			1680-1739 AD (27.1%)	T.U. 3 potential date
			1745-1763 AD (2.7%)	T.U. 3 least probable date
T.U. 4	Modified shell	2970 +/- 30BP	2821-2692 BC (95.4%)	Lithic Age Amerindian
T.U. 5	Charcoal	330 +/- 30 BP	1477-1642 AD (95.4%)	Early Colonial Period

Figure 19: Results from radiocarbon dating.



The radiocarbon dates derived from modified shell recovered at the Black Rocks excavations from Test Units 1, 2, and 4, on their own, represent the oldest evidence for human presence on Saba. In particular, the shell from Test Units 1 and 2 firmly place the site within the early part of Irving Rouse's Lithic Age (4000-2000BC), making Black Rocks one of the oldest archaeological sites in the northeastern Caribbean, including Puerto Rico. A comparison with the oldest known sites across the Caribbean is displayed in Figure 21 below.

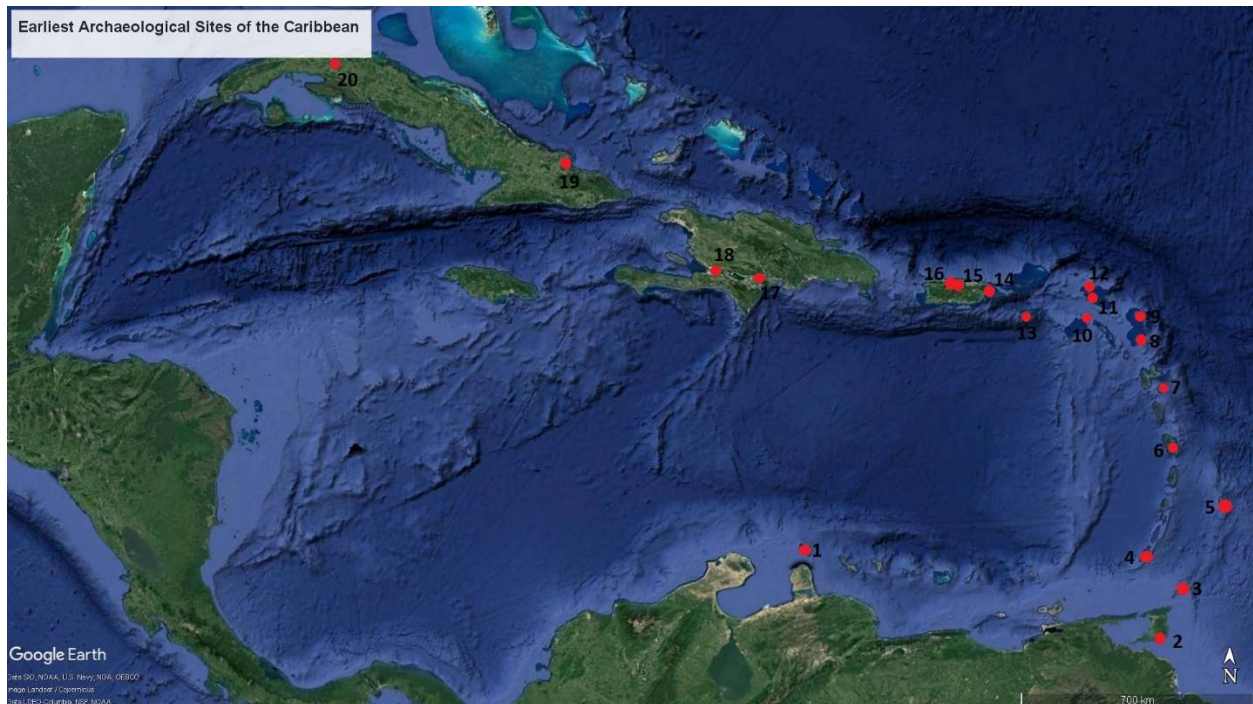


Figure 20: Earliest Archaeological Sites in the Caribbean by island. 1) Curacao, 5150BP; 2) Trinidad, Banwari Trace, 8000BP; 3) Tobago, 5200BP; 4) Grenada, 5600BP; 5) Barbados, 4540BP; 6) Martinique, 5000BP; 7) Marie-Galante, 4960BP; 8) Antigua, 5140BP; 9) Barbuda, 5890BP; 10) Saba, Black Rocks, 4980BP; 11) St. Martin, Red Pond, 5200BP; 12) Anguilla, Whitehead's Bluff, 3680BP; 13) St. Croix, 3030BP; 14) Puerto Rico, Paso del Indio, 4600BP; 15, 16) Puerto Rico, Puerto Fuero, 4300BP; 17) Hispaniola, Barrera-Mordan, 5300BP; 18) Hispaniola, Vignier III, 6400BP; 19) Cuba, Levisa, 4400BP; 20) Cuba, Canimar Abajo, 7400BP. (Siegel et. al. 2019 ; Rivera-Collazo 2019); Havisser 2000).

The two dates derived from charcoal are much more recent, dating to the early contact or early colonial period, and the late colonial period, respectively. The date from the Test Unit 5 sample may be associated with either Amerindians or Europeans, though there were no colonial artifacts found from the site that dated prior to the 18th century.



Maritime Fieldwork Results

The maritime survey resulted in the discovery of two previously unknown ship cannon that were laid crossed upon the other. Both measured 243cm long, and approximately 100cm in circumference around the base ring. There was no evidence of a shipwreck in the area or the entire survey zone, such as a pile of ballast stones, anchors, or clusters of artifacts. Therefore, particularly due to their crossed position, it appears that they were jettisoned from aboard a ship. This could be due to the need to shed weight quickly to lift a ship that struck bottom, or to prevent their capture into enemy hands. The cannons are located within the area of the proposed jetty, as shown in Figure 23 The coordinates of the cannon are -63.2385, 17.6140 (WGS84).



Figure 21: The two cannons as found in-situ, looking east.



Interpreting the Pre-Columbian Black Rocks Site

Saba's steep topography and small area had the effect of focusing human settlement and activities on pockets of land that were sufficiently flat with the potential to take advantage of nearby resources. As a result, archaeological sites across the island are often "multi-component sites" that feature intermittent or continuous use by people from throughout the pre-Columbian and colonial periods. For example, The Bottom, St. John's, Windwardside, parts of Hell's Gate, and Mary's Point were both Amerindian and early colonial settlements. Saba's steep marine topography limited the effect of sea level rise upon Lithic age and early Archaic age sites, since the island never had, or continues to have much of a flat coastline suitable for permanent human use or occupation. Rather, the lack of a coastline encouraged occupation at higher elevations into Saba's interior. As a result, several Archaic age sites have already been identified and excavated on Saba, including Plum Piece, the Fort Bay Ridge Site, two sites on Old Booby Hill, and The Level. It was initially expected that the Black Rocks site mainly featured a late-Saladoid occupation based on the presence of diagnostic red-painted ceramics, though the possibility of early use of the site was left open due to the preponderance of Archaic sites already known on Saba. The early occupations revealed from the radiocarbon dates, however, were not anticipated since it suggests that the most sustained occupation periods were during the Lithic Age (4000BC-2000BC), rather than the late Saladoid period (600AD – 800AD).

While the early radiocarbon dates were derived from modified shell, it is difficult to date the stone tools and other shell tools outside of their place within the site's stratigraphy. The shell from Test Unit 5 dated to 2821BC – 2692BC was recovered from Level 2 (10cm – 20cm), which strongly suggests that the site was subject to continuous erosion from wind and rain, resulting in a very shallow stratigraphy. Indeed, no artifacts were recovered below 40cm anywhere across the site. As a result, it is difficult to associate stone tools from the same level to the period of this date due to the shallow depth of Level 2, and the prolonged erosional processes across the site. Due to the site's extensive early occupation, however, it is likely that most of the stone tools are associated with this period.

The pre-Columbian site at the Black Rocks site is best interpreted as a "satellite" area associated with a nearby village. The archaeological assemblage at SB 015 points to specialized activities, while the notable absence of food remains and postholes demonstrates that this was not an area where people were preparing food or sleeping on a regular basis. The closest known village sits upon St. Johns Hill, within the present-day village of St. Johns, probably in the area of the Comprehensive School and the southeastern end of the flat. The location of SB 015 is then ideally suited as the closest and most convenient access point to the sea for pre-Columbian residents living on top of St. Johns Hill.

The proportions of grinding and hammer stone tools from SB 015, in the absence of food remains and food production activities, points to tool production of non-lithic materials. While shell tools composed approximately one third of the assemblage, there were few remains of shell debitage to suggest any regular



production of shell tools themselves. At least two fishing net weights were recovered from the site, and the coastal orientation of SB 015 lends itself well as an area associated with preparations for fishing. Indeed, excellent fishing is available at the nearby Saba Bank, located directly south and southwest of Giles Quarter just six to seven kilometers away. As a satellite area of the village upon St. Johns Hill, residents would have kept their canoes on shore, probably within the area of SB 015 to ensure that they would not be damaged or carried away by swells. Together, the site's location and archaeological assemblage suggests that activities at the site revolved around preparing for fishing, and activities after fishing was completed. Butchering and preparing fish, however, would have either occurred at another nearby site, or within the village upon St. Johns Hill.

Organic products that do not preserve well in the archaeological record, such as sisal, would probably have been produced here using the tool assemblage recovered from the site. Sisal would have been made by from leaves of two native cacti, either the agave (*Agave karotto*) or the pinguin (*Bromeliaceae sp.*). Producing sisal would first involve pounding or forcing out the inner flesh from the leaves with hammer stones or elongated grinding stones. Both these types of stone tools are common in the site's assemblage. This would be followed by cutting the remaining fibrous skin into thin strips with sharp blades produced from flints from Antigua and southwestern Puerto Rico. These strips were then dried, bound together in lengths, then twisted together to produce a length of rope. While rope had a variety of uses, the thin rope that agave was capable of producing was ideally suited to manufacturing and mending fishing nets. It would be highly desirable to have several stone tools subject to phytolith analysis to determine the types and proportions of plant matter embedded within them as a means to directly associate them with particular means of food or tool production.

The white volcanic ash layer at the western end of Excavator Trench A had two shell adzes and a shell-scoop (Figure 19) from 55cm and 75cm below the surface, well within the deposit itself. This demonstrates that this deposit was extracted and exploited by the site's pre-Columbian occupants. This would have had several uses, among them being as body paint, as a sunscreen while at sea, as a skin powder to repel sweat, and even to improve hand grip in a similar fashion to the "rosin bag" used by baseball players. Its location at a site associated with fishing preparations, in particular, is very convenient since it was a readily-available source for sunscreen for fishers spending long hours in an open canoe at sea.

A small variety of non-local materials recovered from archaeological excavations at SB 015 demonstrates that the pre-Columbian people associated with the site either had either trade relations or direct contacts beyond Saba. Many pre-Columbian cultures of the eastern Caribbean are strongly associated with mobility rather than being permanently sedentary, with the sea being viewed as a means to connect people and places rather than a barrier between them. The Antiguan flints recovered from excavations originate from Long Island, just north of Antigua. This location was the most readily accessible flint source in the northeastern Caribbean and was accessed by Amerindians dating back to the Archaic Age (2000BC – 500BC) (Knippenberg 2006:) The large, white flint cobble with red marbling and red nodules originates specifically from Las Palmas in southwestern Puerto Rico. The small, polished jade or jadeite is also non-local, though its origin is uncertain.



Altogether, the Amerindian occupation and use of the Black Rocks site is striking and very significant not only for Saba's pre-Columbian history, but also when framed within early human occupations across the Caribbean. Despite the difficulty of associating stone tools with the age derived from radiocarbon dated modified shell, it is extremely conspicuous that between 3484BC to around 800AD, a period of over 4,200 years, the Black Rocks site was never used for settlement or food production of any degree. Rather, for over four thousand years, the site was used as a staging area for fishing, and place to harvest fine white volcanic ash. This significantly reinforces the phenomenon across Saba of specific places and sites that were continually used for similar or identical purposes by disparate people throughout the pre-Columbian period and colonial periods.

Interpreting the Colonial-era Black Rocks Site

The colonial period use of the Black Rocks site is small compared to the pre-Columbian era. Its primary association appears to be with the dry-stone animal pen located immediately north of the proposed development area. The few glass and stoneware bottle sherds found at the site would have been associated with their re-use as water bottles by people tending cattle in the area throughout the colonial period. While the Black Rocks' namesake as the area where African-descent Sabans were to keep their boats reflects its use as a staging area for fishing in the pre-Columbian period, by contrast, no artifacts associated with fishing preparations in the colonial period were found.

Interpreting the Offshore Development Area

There is no documented use of Giles Quarter as an anchorage or as a frequented offshore fishing area in the historical record, or any known naval battles that took place in the area. As a result, the chance for any substantive maritime cultural heritage was small. The discovery of two ship cannons is incidental since they appear to have been intentionally discarded.



Further Research and Avenues for Heritage Promotion

Radiocarbon dates from excavated samples at the Black Rocks site are pending, and will provide a strong correlative set of dates to the age estimation of the site derived from the ceramic record, which reflects the late-Saladoid period, ca. 400AD to 600AD. Starch-grain analysis of grinding stones would provide proof of their associations with particular organics; in this case, we expect that they would indicate either agave or pinguin, with very few associated with food production such as cassava or maize. Archaeological excavations within the village of St. Johns, as the pre-Columbian village associated with SB 015, would be important to derive matching radiocarbon dates in order to prove that they were contemporary sites.

Due to the proximity of the cannons to the development area of the jetty, there are three mitigation options that are possible, which include:

- 1) Recovering the cannons and beginning the process of conservation, with the goal of mounting them in the new harbour as display pieces. This option is not expensive, but it is time consuming as the process can take several years.
- 2) Moving the cannons to a nearby dive site as a means to add character and attract divers. While this option may be the fastest and most cost-effective, it effectively denies Sabans access to this part of their cultural heritage since very few Sabans are scuba divers.
- 3) A blend of two previous options which involves partial conservation of the cannons as a means to determine their date, caliber, and place of manufacture, which will be used to create replicas. The originals would then be returned to a saltwater environment at a dive site, while the replicas would be mounted in the new harbour. Preferably, the replicas would be cast or at least plated with a saltwater resistant metal, such as marine-grade aluminum. This option is mid-range in terms of time and would be the most expensive.

There appears to be a broad and vested interest in both the public and government with regards to either option 1 or 3. It is the recommendation of Zemi Cultural Heritage Services and SABARC that option 3 be pursued since it minimizes the time, labour, and infrastructure that would otherwise be involved with option 1, while maximizing access to this part of Saba's cultural heritage. An otherwise mundane dive site would be provided with further attraction, while saltwater-resistant replica cannon would be a better long-term display option at the harbour since they would not require maintenance to the degree that the original cannons would. The "new" look of the replicas would also provide for a better overall aesthetic for the harbour than the originals.



Abbreviations Used

NAC = National Archives of Curaçao, Willemstad, Curaçao.

DNA = Dutch National Archives, The Hague, Netherlands.

SVB = Saba Vendue Book, Planning Bureau, Saba, Dutch Caribbean.

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Appendix A

Saba 7th June 1839

Sales at Public Auction by the permission of the Honourable Edward Beaks Commander of this Island a certain tract of Land, situated in Jiles Quarter/Divided in Eight Lotts for account of whom it may concern, conformable to Publications issued on the 29th ult. The terms are cash in 24 hours.

The purchasers paying commissions at 7 ½ percent.

No 1. First lott situated above the common road, joining Mrs. Every's land on the ? and P. Every's on the west. [Purchased by] James B. Hassell f 61

No 2. Second lott below the Common road leading from Gulger's rocks to J. Hassel's land and to the gut. [Purchased by] P.A. & J. E. Hassell 22.50

No 3. Third lott from Gulger's rocks to Mr. R. Johnson's land at the mouth of the cave, east ending to the gut. [Purchased by] ?. E. Hassell 106.-

No 4. Fourth lott, from the cave to the ?pafrie tree in the Savanass ?up to the gut. [Purchased by] James Hassell 88.-

No 5. Fifth lott, from the ?Pafrie tree, in the Savaass to the cave joining ? R. Hassell's land o the south and east ending to the gut. [Purchased by] Cohone Johnson 96
373.50

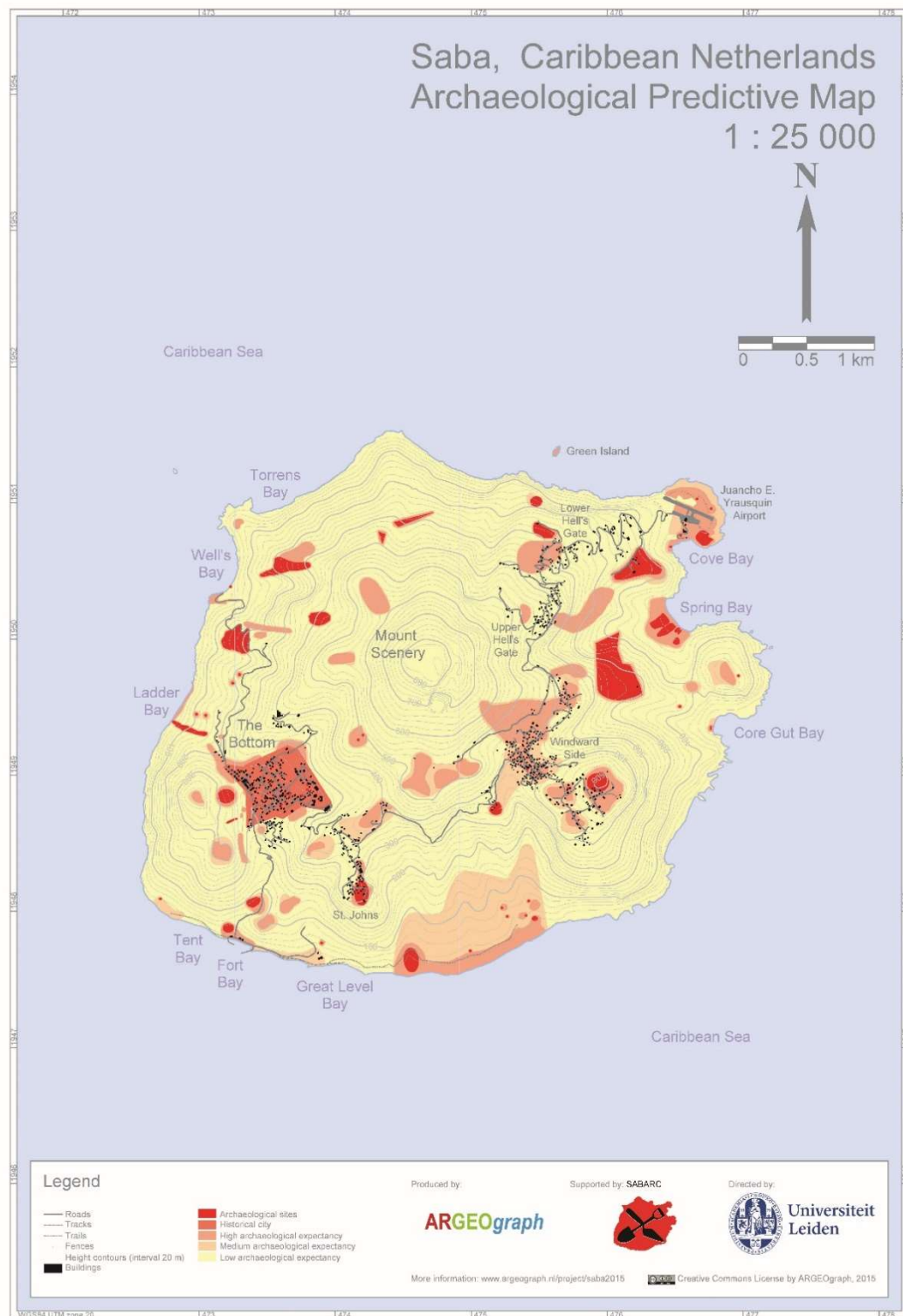
No 6. Sixth lott from the cave to a Pafrie tree standing in a bank of rocks joining Mr. Jacob Every's land to the south and east ending to the gut. [Purchaed by] B. Hassell 96

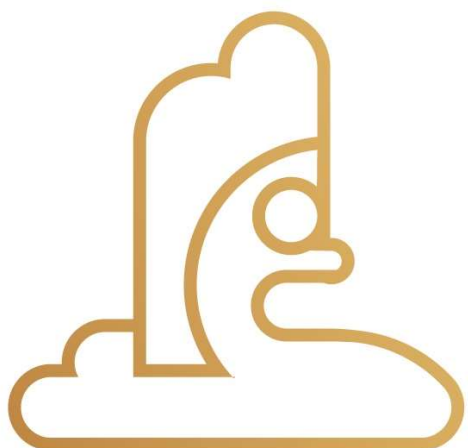
No 7. Seventh lott, from the Pafrie tree to the water rock at the foot of Mr. G. Every's land, east ending to a large white rock in the gut. [Purchased by] Henry Hassell 90

No 8. Eighth lott from the water rock on the ridge to a large white rock in the gut and east leading to the sea the south and to the west with the lands of Messr H. Hassell & J? Every. [Purchased by] Richard J. Hassell -500 Guilders 1059.30



Appendix B





ZEMI
CULTURAL
HERITAGE
SERVICES



SABARC
SABA ARCHAEOLOGICAL CENTER

