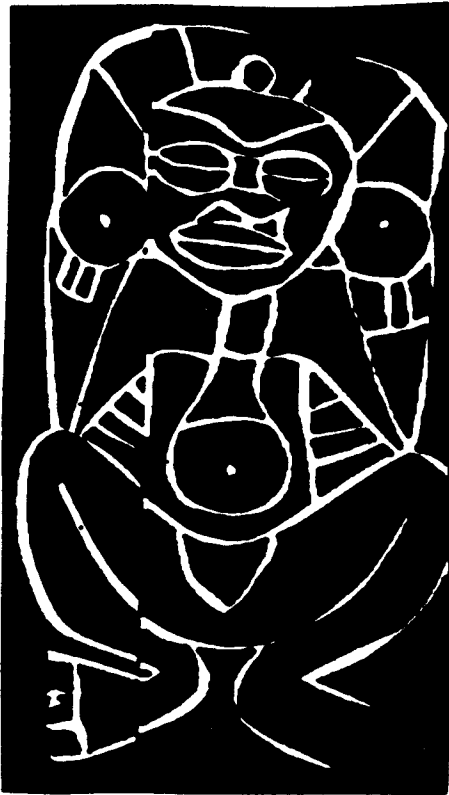
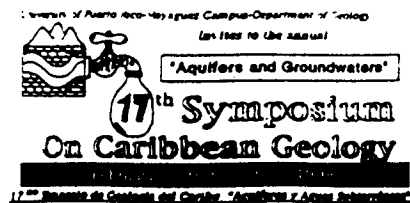


University of Puerto Rico
Department of Geology
Mayagüez Campus



Field Trips

Thursday, February 26, 1998
Saturday, February 28, 1998



FIELD TRIP: Thursday, February 25, 1998

This field trip will go through the karst areas near the Rio Grande de Arecibo, down to the Rio Tanamá, and to the restored cultural center of the Taíno at Caguana. The Rio Tanamá is a scenic river entrenched in the Tertiary limestones of Puerto Rico. The trail to the river curves down a steep escarpment ending at a limestone arch, the remnant of dissolution and collapse. Past the arch, the river winds through deeply entrenched meanders and flows underground for brief intervals before flowing into the Rio Grande de Arecibo.

The Caguana Indian Ceremonial Center is one of the major archeological sites of Puerto Rico. It preserves an important cultural meeting place of the Taíno people who lived on Puerto Rico at the time of European contact. Information on the Caguana ceremonial center is abstracted from Park literature in the next several pages.

The hike to the Rio Tanamá is a steep, 30 minute walk down a narrow, curving trail. Small springs and waterfalls well from the rocks at the bottom of the trail. The hike back up from the river will likewise be steep and will take a somewhat longer. For the trip, wear comfortable clothes and shoes that you don't mind getting wet and dirty. You may wish to bring fresh shoes and clothes to leave in the van.

Caguana's National Indian Park at Utuado

Caguana's National Indian Park is distinguished as the most important restored archeological complex of Puerto Rico, and is one of the biggest of the Antilles. It is located in the district of Caguana in the municipality of Utuado. Together with the towns of Adjuntas, Hatillo, Lares, Barranquitas, Orocovis and Jayuya, Utuado constitutes one of the major sites of archeological discoveries in the island.

Caguana's complex was discovered during archeological and ethnographic research conducted by scientists of the Scientific Survey of Puerto Rico and The Virgin Islands. This research, which started in the 1900's, has been sponsored throughout the years by many federal scientific institutions. One of the most important projects of this survey was directed by Dr. Franz Boas, an American anthropologist. The purpose of his investigation was to scientifically document the recently acquired colony's possessions following the 1898 Spanish-American War. The site known by the locals as "juegos de indios", "juego de bola" or "corrales de indios", was first visited by Boas and his group in 1915. The terrain was totally covered by bushes and vegetation which gave the newcomers little idea of the extension and importance of the site.

After various preliminary studies, it was decided that excavations should be made. This task was performed by the archeologists James Alden Mason and Robert T. Aitken, both part of Dr. Boas's team. Mason and Aitkens first describe the site as being one strategically chosen for defense purposes. One of the most fascinating characteristics of the place is the extent and quantity of the archeological remains found, such as "plazas", gravel-walks, and petroglyphs on the rocks surrounding the "plazas". These extraordinary features are what make Caguana's Park different from other parks in Puerto Rico and the Dominican Republic.

One of the most important aspects of the process of acquisition, excavation, and restoration, was the construction of a museum at the entrance of the park where some of the artifacts excavated, as well as those found by neighbors prior to the excavations, are exhibited. The museum provides visitors with information on the complexity of the "taíno" society prior to the Indo-European contact, and also exhibits artifacts from other aboriginal groups that inhabited the island before the "taínos". Information is also provided on how the current facilities were constructed. One of the most interesting exhibits are the "piece necklaces" or "collares de piezas" that have been related to the "juego de la pelota" or ball game representative of the "taíno" cultures in both Puerto Rico and the Dominican Republic. Another fascinating aspect of the exhibition are

the numerous idols known as "cemíes" or " ídolos de tres puntas" related to a variety of rituals and religious ceremonies. As a complement to the park some "bohíos" or aboriginal structures have been constructed, following the information provided by Spanish historians.

A preliminary report on the status of the excavations was published in the " Proceedings of the Nineteenth International Congress of Americanists" (Mason, 1917). Almost three decades later, in 1941, a final report was published in volume 18 of the " Scientific Survey of Puerto Rico and the Virgin Islands" (Mason, 1941). It was not however until 1983 that the cultural importance of Caguana's Park was discussed. This was done as part of the Puerto Rican historian Dr. Ricardo Alegría's Ph.D thesis at Harvard University entitled "Ball Courts and Ceremonial Plazas in the West Indies. In his thesis Dr. Alegría offers details on the processes of excavation, research, acquisition and restoration during the years from 1949 to 1956. The 1949 excavation was performed by Dr. Alegría as part of an archeological excavation program sponsored by the Center of Archeological Investigation of the Museum of Anthropology, History and Art of the University of Puerto Rico. The interest of the University in the project was to update the status and conditions of the artifacts described by Mason in his reports. Unfortunately, by the time Dr. Alegría started working on his thesis, the sporadic use of the soil for agricultural purposes and the use of mechanical equipment in ploughing during sugar cane seasons destroyed some of the elements that had already been discovered.

* Document Obtained from Mr Ferdinan Alvares, director of the Centro Ceremonial Indígena, Caguana, Utuado.

The Taínos

At the time of the discovery by Christopher Columbus in 1493, the island of Puerto Rico was inhabited by taíno Indians of Arawac origin who came from the Orinoco region of South America through the Lesser Antilles archipiélago.

By the year 100 the agriculture-centered taino culture was at its height. Their main agricultural product was yucca from which they made cassava bread. They also planted yautías, batatas and lerenes as well as plants such as tobacco (a most important element in the magical - religious ceremonies) and cotton from which they knitted the nagua, used as clothing by their women.

Taíno Indians fed mostly on fish and made pottery to be used as household utensils. They also made wood and stone carvings. Their principal weapons (bows, arrows and macanas) were made of wood. They picked gold in rivers and used it to make ornaments and arms.

The social, political, and religious organization of taíno Indians revolved around the cacique. They believed in a supreme god, as well as in protective tutelary gods who they called cemíes and whom they represented in figures made of gold, stone, wood, and other materials.

The ball game was a social bond among the various taíno communities since it had a highly ceremonial significance that went beyond its sporty nature. The game was played on a court that was generally located at the center of the village. Both the game and the court on which it was played, were called batey. The batey was placed between two gravel walks, each of the teams had from ten to thirty players which were usually male.

Archeological findings related to the game lead us to believe it was a ceremony with religious significance rather than entertainment. In Puerto Rico the courts are located in small valleys set along mountains close to rivers at the center of the island, and spread mainly across the towns of Utuado, Lares, Adjuntas, Hatillo, Barranquitas, Orocovis, and Jayuya. More than thirty ceremonial courts have been discovered in these areas (mainly in the Utuado jurisdiction). In Utuado the Caguana barrio seems to have been the most important ceremonial center of taíno cultures in the West Indies. In addition to large central courts there are at Caguana ten other rectangular courts of various dimensions, as well as a circular one. The archeological importance of this place was pointed out more than forty years ago by Dr. Mason who partially discovered the site and studied it in detail.

The antiquity of the center seems to go back as far as 1200 AD according to the radioactive analysis of a radiocarbon of the sample obtained at the site. The group of courts found at barrio Caguana Utuado seems to point out for the existence of a religious center for a larger and more complex socio-religious ceremony of which the ball game seems to have been a most transcendental one. Caguana was a ceremonial center inhabited permanently by few people: however large crowds came from nearby villages at certain times to meet there and to take part in an important socio-religious ceremonies.

The Institute of Puerto Rican Culture believing it is of extreme importance to keep these valuable monuments of our native culture surrounded by the natural friend of our indigenous flora, has restored the center to its original aspect, and turned it into a botanical garden that can be visited by our people in order to look and to learn about native trees and plants of Puerto Rico from which the islands primitive inhabitants obtained most of their food and clothing materials. Trees pertaining to this flora such as the ceiba, the ausubo, the, the tabonuco, the palma real, the cedro, and the maría, among others embellished the place where long ago the collective soul of Puerto Rican Indians expressed themselves through sports and religious rituals.

* Document Obtained from Mr Ferdinan Alvares, director of the Centro Ceremonial Indígena, Caguana, Utuado.

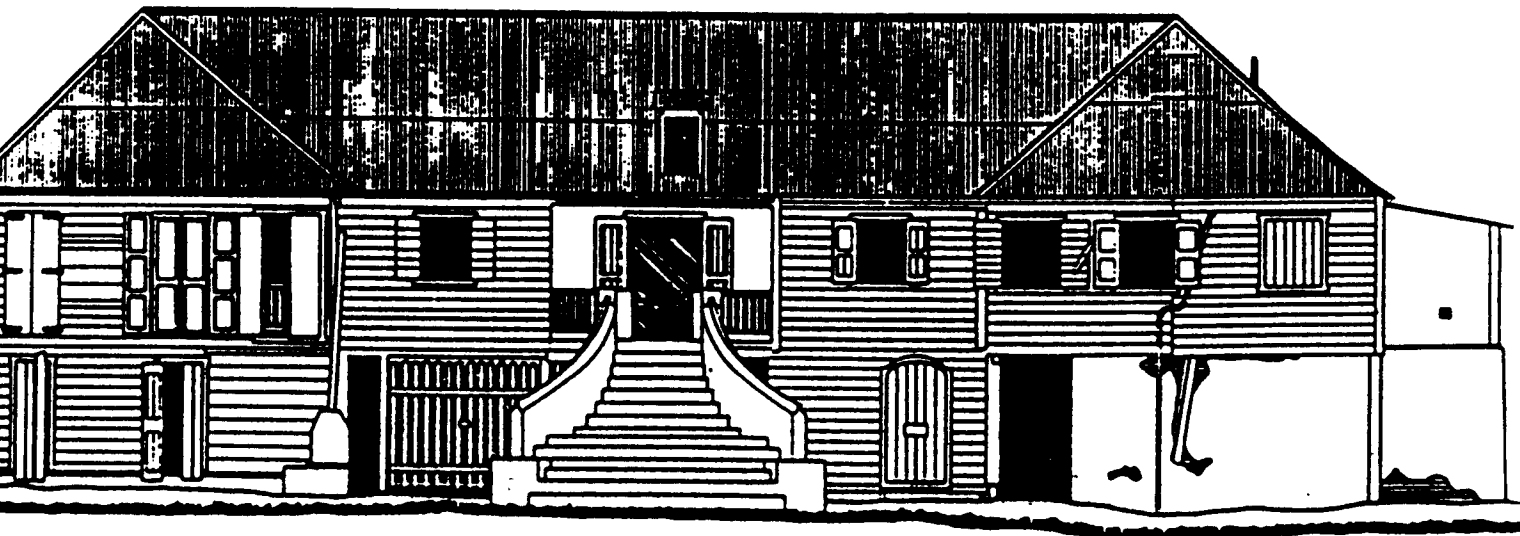
FIELD TRIP: Saturday, February 28, 1998

This field trip will visit the construction site of the Superacuaducto project presently being constructed near Arecibo. The project has been designed to carry water from the Rio Grande de Arecibo to the metropolitan area of San Juan. The second part of the trip will take us through the site of a historic plantation, planned for restoration and preservation. The trip will end at the shoreline of the coastal plain with cemented aeolianites. Information abstracted from park literature follows.

You will need comfortable field clothes and sun protection for the trip, which will end at the beach. Insect repellent can be useful in second part of the field trip.

HACIENDA

LA ESPERANZA



Hacienda la Esperanza

The Hacienda "La Esperanza" is a sugar farm undergoing restoration. It is a 2,265-acre estate located in the fertile valley of Manatí, about 35 miles west of San Juan, Puerto Rico's capital city. In July 1975, the Conservation Trust, (a nonprofit institution founded in 1970 through the efforts of the U.S. Department of the Interior and the Commonwealth of Puerto Rico), bought "La Esperanza" and immediately set about to lease the cane fields to the Puerto Rico Land Authority for the planting of rice, thereby providing employment to some 400 agricultural workers. At the same time it began to research the farm's history: its social and economic background, the sugar-making process employed during its most productive period in the 19th century, and other data.

A unique combination of factors make "La Esperanza" particularly worth preserving. For one its rich alluvial soil is well suited to agriculture. For another it is one of the few large tracts of land on Puerto Rico's heavily urbanized north coast that has not been slated for industrial, commercial or housing development. Then, because of its varied and beautiful landforms and waterways, La Esperanza has considerable ecological and aesthetic value.

It is understandable how an island 100 miles by 35, with a population of three and a half million and a rapidly industrializing economy, can have a serious land conservation problem. No institution is more aware of this than the Puerto Rico Conservation Trust. The Trust assigns first consideration to the ecological and aesthetic values of the land it plans to acquire. In this respect Hacienda La Esperanza passes with flying colors.

The western border of the property is a lovely meandering river, the Río Grande de Manatí. The Atlantic Ocean forms the northern boundary of La Esperanza. Tall breakers slam against cemented dunes shaped like giant brown whales. The ocean water pours over the dunes to form swimmable pools with smaller waves that lap gently on sandy beaches. Along this coast an Indian ceremonial park was recently excavated.

Landforms on the estate include steep little conical hills made of limestone, part of the island's famed karst region of limestone hills and caverns. Into one of the hills -there are about 30 on the estate-one of the Haciendas former owners built an oven for making bricks used in construction. Lime was also extracted for use in removing impurities from the cane juice as it flowed from crusher to boiler.

Looking south from the cane fields there is an almost unbroken view of green foothills backed by the dark heights of the central mountain range, the Cordillera Central , that divides Puerto Rico into a green northern side and a dry southern one.

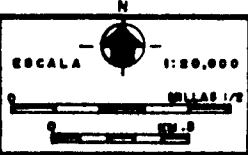
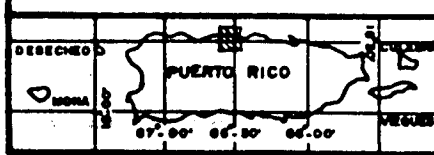
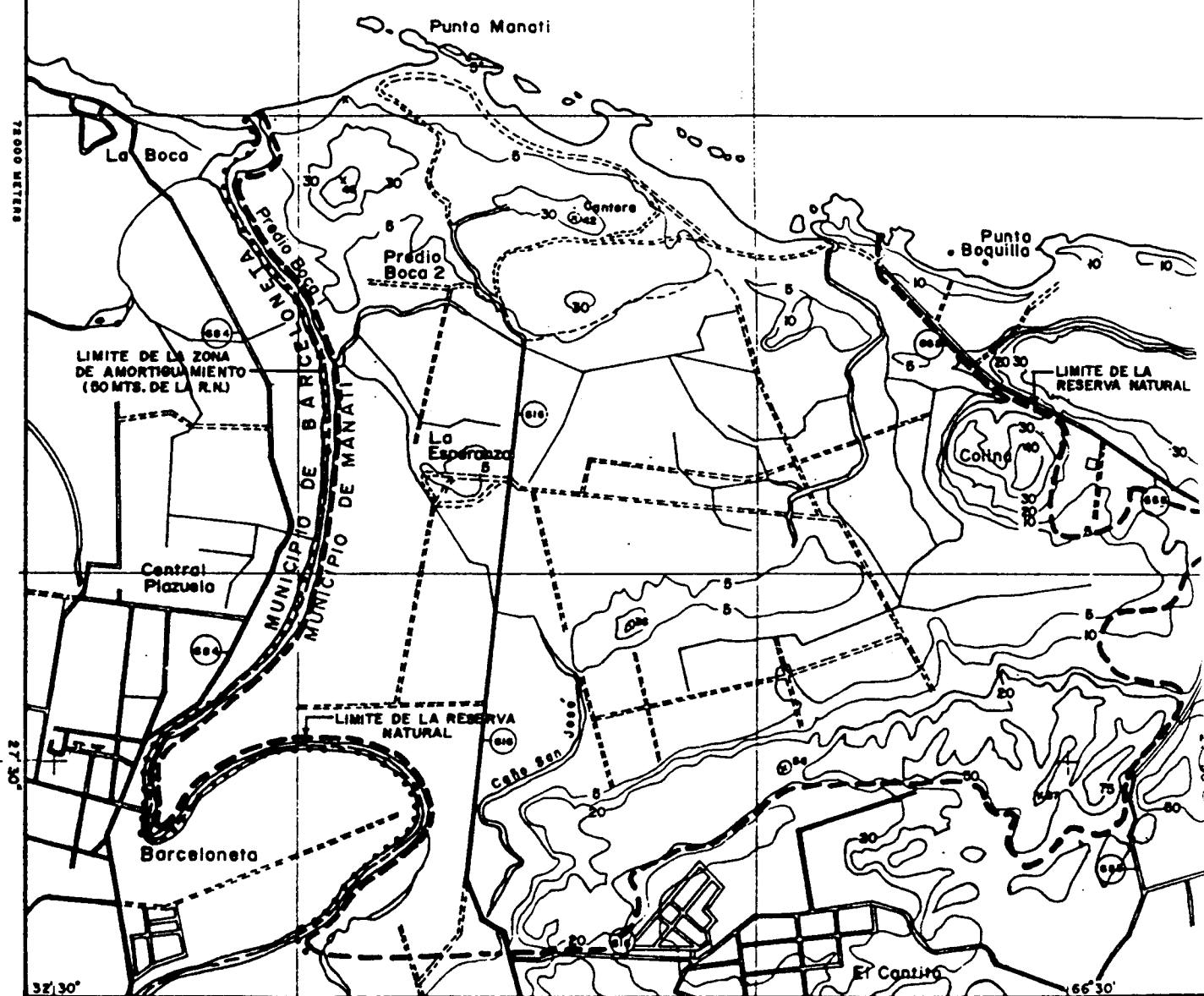
By converting La Esperanza into a living historical farm, the Conservation Trust hopes to make an important contribution to the overall historical interpretation of commercial agriculture. Plans are to organize a living catalogue of world sugarcane varieties and to establish a genetic bank of aboriginal cane stocks. the project will also demonstrate the agricultural practices of a mid 19th century sugar plantation. add to this that a large estate distinguished by its natural beauty has been saved and the picture is complete.

Adapted from Patricia O'Reilly,
Que Pasa

OCEANO ATLANTICO

FUENTE DE INFORMACION:

PREPARADO POR LA OFICINA DE PLANIFICACION DE RECURSOS TERRESTRES, DEL DEPARTAMENTO DE RECURSOS NATURALES, FECHA: MARZO 1986.
 INFORMACION OBTENIDA DEL CUADRANGULO DE BARCELONETA Y MANATI, N1822.5-W6630/7.5
 FECHA: 1969 - PHOTOREVISED-1982.
 CONTOUR INTERVALO DE 10 METROS



TOPOGRAFIA
Y
LOCALIZACION

RESERVA NATURAL MAPA-1
HACIENDA LA ESPERANZA
 MANATI, PUERTO RICO