United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form*. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. **Place additional certification comments, entries, and narrative items on continuation sheets if needed (NPS Form 10-900a).**

1. Name of Property

historic name Rum Pilot Plant

other names/site number

2. Location

street & number State Road # 1, Estación Experimental Agrícola, Rio Piedras ☐ not for publication

city or town San Juan ☒ vicinity

state Puerto Rico code PR county San Juan code 127 zip code 00919

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,

I hereby certify that this **_X_** nomination ___ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property **_X_** meets ___ does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

___ national _X_ statewide __local

Carlos A. Rubio Cancela
Signature of certifying official

Date

State Historic Preservation Officer
Title

Puerto Rico State Historic Preservation Office
State or Federal agency/bureau or Tribal Government

In my opinion, the property ___ meets ___ does not meet the National Register criteria.

Signature of commenting official

Date

Title

State or Federal agency/bureau or Tribal Government

4. National Park Service Certification

I, hereby, certify that this property is:

✓ entered in the National Register

___ determined eligible for the National Register

___ determined not eligible for the National Register

___ removed from the National Register

___ other (explain:)

for Edson Beall
Signature of the Keeper

7.26.10
Date of Action

5. Classification

Ownership of Property
(Check as many boxes as apply)

- [ ] private
- [ ] public - Local
- [X] public - State
- [ ] public - Federal

Category of Property
(Check only **one** box)

- [X] building(s)
- [ ] district
- [ ] site
- [ ] structure
- [ ] object

Number of Resources within Property
(Do not include previously listed resources in the count.)

Contributing	Noncontributing	
1	0	buildings
0	0	site
0	0	structure
0	0	object
1	0	**Total**

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing)

Development of the Rum Industry in Puerto Rico, 1520-1960.

Number of contributing resources previously listed in the National Register

N/A

6. Function or Use

Historic Functions
(Enter categories from instructions)

Industry/ manufacturing facility

Current Functions
(Enter categories from instructions)

Vacant/Not in Use

7. Description

Architectural Classification
(Enter categories from instructions)

International Style

Materials
(Enter categories from instructions)

foundation: Reinforced concrete
walls: Reinforced concrete, glass
roof: Reinforced concrete
other: metal

Narrative Description

Summary Paragraph

The **Rum Pilot Plant** is located in a farm of the Agricultural Experiment Station on State Road # 1, two kilometers from the ward of Rio Piedras, in the Municipality of San Juan. The property, owned by the University of Puerto Rico (UPR) and administered by *Recinto Universitario de Mayaguez* (UPR, Mayaguez Campus) is a 1953 reinforced concrete, rectangular plan, three-story main volume and a six-story tower building **(Fig. 1**) The building, designed by engineer Jacinto Galib in the International Style, functioned as an experimental rum distillery, as part of the 1950s government sponsored rum quality program. The purpose of the **Rum Pilot Plant**, with 150 gallons of rum per day production capacity, was to study all possible aspects of the manufacture of rum and alcohol.

Narrative Description

As the **Rum Pilot Plant** had an experimental purpose, the building contains functional-related spaces that are not usually found in regular rum distilleries, as described in Section F of the multiple property cover document *Development of the Rum Industry in Puerto Rico, 1520-1960.* The first-floor plan consisted of an office, a rum receiving and processing area, a garage, a maintenance shop, a boiler room, a barrel storage area and the male lavatory with toilets, two showers and metal lockers for the employees. The second floor had the distillery, a chemistry laboratory, a distillation laboratory, a bacteriology laboratory, the Director's Office (with its own lavatory), the offices for the clerks, secretary and statistician, a female restroom and a supply room. The third floor had an open plan purely dedicated to the distillery process. The six-story tower housed the distillation columns, therefore its height, with enough space for the elevator shaft located in the northeast corner of the tower.[i]

Although the exterior expression of the building projects the industrial process conducted inside, the property presents an interesting architectural statement. The exterior main façade of the **Rum Pilot Plant** is divided among three skillfully asymmetrically-placed distinctive volumes. The main horizontal volume is a three-story reinforced concrete body of evident rectangular plan. An arrangement of blue-ridge satin finished glass windows emphasizes the horizontality of this section, along with the continuous horizontal lines (overhang) that clearly define every floor. These blue glazed windows, manufactured by *Libbey, Owen, Ford Glass Company*, were the original windows through the entire building, (**Fig. 2)** but were replaced in the first floor southern façade (main façade) and the tower by Miami metal windows during the late 1970s.

[i] Archivo de Arquitectura y Construcción de la Universidad de Puerto Rico (AACUPR). Planos de la Planta Piloto de Ron.

The tower, which functions as the house of the distillery' stills demanded its verticality, has a clay tile brick-as-wall surface, successfully used without creating a false traditional feeling. The brick surface in the tower contrast with the smooth cement plaster finish that covers the entire building. The tower is crowned with a partially covered terrace. The tower also serves as a transition point between the main horizontal volume on the western end of the main façade and the volume on the eastern end.

The exterior of the eastern volume shows a more aesthetic approach. The industrial appearance of this section is softened by the pronounced used of glass windows, combining the blue-glazed with a nine-foot section of clear plate glass windows. The use of metal safety railings on the open terrace located in the third-floor roof and in the purely decorative nine-foot section of metal strips directly above the building entrance, adds texture and fluidity to the building. The application of vertical and curved elements is also notable in this section of the building; here there are four *brise soleil* and a curved wall that served to enclose a sitting area in the roof-terrace. This, together with the vertical disposition of the clear plate glass that conform the main entrance doors, creates a contrast with the dominant horizontal arrangement of the western section of the main façade. The roof-terrace directly above this eastern section had a semi-circular open bar with a sitting area and a taster room.

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

- [X] A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- [ ] B Property is associated with the lives of persons significant in our past.
- [X] C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- [ ] D Property has yielded, or is likely to yield, information important in prehistory or history.

- [ ] D a cemetery.
- [ ] E a reconstructed building, object, or structure.
- [ ] F a commemorative property.
- [ ] G less than 50 years old or achieving significance within the past 50 years.

Criteria Considerations
(Mark "x" in all the boxes that apply)

Property is:

- [ ] A owed by a religious institution or used for religious purposes.
- [ ] B removed from its original location.
- [ ] C a birthplace or grave.

Areas of Significance
(Enter categories from instructions)

Industry

Architecture

Period of Significance

1953

Significant Dates

1953

Significant Person
(Complete only if Criterion B is marked above)

Cultural Affiliation

Architect/Builder

Galib, Jacinto (Engineer)

Period of Significance (justification)

1953 (Inauguration date)

Criteria Consideratons (explanation, if necessary)

Statement of Significance Summary Paragraph

The 1953 **Rum Pilot Plant,** located in a lot property of the Agricultural Experiment Station in the ward of Río Piedras (San Juan) is statewide significant under Criterion A as the property was an essential resource in the successful development of the rum industry in Puerto Rico. The small experimental government-sponsored distillery, with 150 gallons of rum per day production capacity, was used to analyze all aspects of the rum making process from fermentation through distillation. The findings of the **Rum Pilot Plant** were passed on to the rum and alcohol manufacturers, greatly contributing to the increase in quality and technical performance of the rum industry in general, an industry vital to the economic development of Puerto Rico.

The building is also of statewide significance under Criterion C in Architecture as the property represents one of the earliest examples of the International Style applied to the local context. The building encompassed the philosophical postures of the style: the lack of historical references, the absence of ornamental decorations and, as the exterior of the building reflects the industrial process conducted inside, the form follows the function.

Narrative Statement of Significance

During the Second World War the sales of the local rums exceeded the most optimistic estimates. The demand for Puerto Rican rums in the US market increased rapidly during the war until unexpected levels were reached. Hence the reserves available at the warehouses of the rum manufacturers were exhausted in a short time. The moment came when adequately aged rum was no longer available and rum with little or no aging appeared in the market. The shipment of inadequately aged rum seriously damaged the prestige of Puerto Rican rums.

After the end of the war, the sales of Puerto Rican rum in the US market dropped tremendously. Recognizing the vital importance of the taxes generated by the rum industry to the local economy, the government quickly interceded with the creation of two programs oriented to establish the prestige of the industry: a massive promotional campaign and a government-guided policy to increase general quality of the product. The Economic Development Administration was assigned the responsibility to direct the advertisement campaign in the US.

The government used its legislative prerogatives to promote the success of the rum industry through a quality control program. The Mature Spirits Act of 1948 established that neutral spirits should never be added to the rum-producing process. On November 13, 1949, to oppose the problems created by the practice of selling freshly-distilled-unaged rum during WWII, Law Number 7 approved a mandatory one-year-aging period for all rums. It also established that all Puerto Rican rum should be tripled distilled and aged in charred white oak barrels. These currently active laws, make the Puerto Rican rum the only rum with a government regulated standard of quality.[ii] Also established was a rum research program, government sponsored, directly administered by the University of Puerto Rico (UPR), Río Piedras Campus. Under the rectorship of Jaime Benitez Rexach since 1942, the UPR founded, with a government appropriation of $500,000, the **Rum Pilot Plant.**

Designed by engineer Jacinto Galib, the construction of the **Rum Pilot Plant** began in 1950.[iii] Galib followed the proposals of the International Style, creating what could be the first building designed in Puerto Rico along those lines. The selection of an engineer to design the building, and not an architect, adds to the building's relation to the International Style's proposal of "buildings as machines". The **Rum Pilot Plant** embodies some of the characteristcs of the style: a simplification of form, an adoption of glass, steel and concrete as prefered materials, a rejection of ornament (although not totally), a geometrically bounded space where volume replaces mass and where functionality takes precedence over aesthetic concepts and historicism.[iv]

Finished by March and officially inaugurated on April 1, 1953, the plant was located two kilometers from the city of Rio Piedras, home of the UPR's main campus, in a farm property of the Agricultural Experiment Station. The **Rum Pilot Plant** was an experimental distillery, with 150 gallons of rum per day production capacity, with the most modern equipment and facilities for the production of fermentation alcohol and rum. The fermentation and distillation units were highly flexible, so that experiments in the various fermentive and distillation process could readily be conducted. The laboratories were well out-fitted with the necessary instrumentation required for the application of the most modern techniques to studies on rum and alcohol.

The **Rum Pilot Plant** conducted scientific investigations in all the phases comprising the process of manufacturing rum and alcohols by the fermentation of sugarcane molasses. The services provided by the **Rum Pilot Plant** included supplying yeast cultures to the rum manufacturers, working on specific research problems related to the needs of the Puerto Rican rum manufacturers and when required, visited the commercial distilleries to assit them in the practical aspects of carrying out the Plant's reccomendations at the commercial scale.[v]

[ii] For a more detail historic background refer to the multiple listing cover document, *Development of the Rum Industry in Puerto Rico, 1520-1960*.
[iii] El Mundo, 1 de marzo de 1950, 2. *UPR comienza a construir Planta Piloto*.
[iv] Henry Russell Hitchcock and Philip Johnson, *The International Style*. New York: W.W. Norton & Company, Inc., 1932.
[v] Victor Rodriguez Benítez, *Rum Research Work at the Agricultural Experiment Station*. UPR, Río Piedras, 1956.

The **Rum Pilot Plant** scientific staff researched rum production in all its aspects. Pure yeast cultures were used to convert the sugar present in the mash into alcohol during the fermentation process. The plant obtained yeast strains from many institutions throughout the world. These strains were evaluated in experimental fermentations, on both laboratory and plant scale. The strains that had a high degree of excellence became part of the yeast collection of the **Rum Pilot Plant** and were freely made available to the manufacturers in Puerto Rico. Studies were also conducted on conventional batch-fermentation processes. Incremental fermentation processes were developed that permitted very high alcohol concentrations to be obtained.

The plant had a three column distillation system that reached almost sixty-foot high (which explains the six-story tower) where numerous studies were conducted on various distillation processes utilized in the alcoholic industry. The data gathered in this specially built still facilitated the design of distillation units capable of producing rums of the highest qualities.

The **Rum Pilot Plant** also conducted studies in one of the more intriguing aspects of rum producing, the aging process. Research was done in the effects of various types of oak barrels on the aging of rums, as well as the effects of adding different substances to the rums in the barrels at the beginning of the aging processes, such as activated carbon, oak chips, wood extracts and others. As the Plant just couldn't wait years for the aging of rum to happen, a special chemical reactor was constructed to accelerate the aging process. An experimental aging warehouse was built on the building first floor with provisions to analize such ambient variables as temperature, humidity and ventilation, and the aging of rums in different barrels. The research conducted at the Plant had such a wide scope that analytical studies were done in aspects that ranged from the finishing operations of rums before bottling to organoleptic tests (tasting techniques). The Plant was also a pioneer in the research for the proper disposal and possible recycling of the "*mosto*", the final waste of rum production.

All the knowledge obtained in the **Rum Pilot Plant** was promptly transmitted to the rum industry during technical meetings held periodically, through frequent published reports and technical publications of the Agricultural Experiment Station. The Plant also offered consulting service to the private industry absolutely free of charge. This service included design and selection of equipment, development of special processes, selection of operating conditions, supervision of equipment installation, selection of control systems, training of skilled operators and technical personnel, analysis of samples, evaluation of the quality of the finished product, and general advice on all matters, including economic considerations. The **Rum Pilot Plant** also cooperated frequently with the government-sponsored promotional campaign, offering advice on matters related to the rum industry. It also advised the Bureau of Alcoholic Beverages on the preparation of rules and proposed legislation.[vi]

After almost forty years of operation, the **Rum Pilot Plant** was shut down in 1990. The building not only retains all aspects of integrity, it also contains some of the technical equipment associated with its experimental purposes. The **Rum Pilot Plant** is of statewide significance for its important contributions to the development and success of the Puerto Rican rum industry.

[vi] For more details on the Rum Pilot Plant accomplishments see, El Mundo, 10 de diciembre de 1959, 32, *Técnicos explican logros de la Planta Piloto de Ron*; El Mundo, 7 de julio de 1962, 19, *Estudios para mejorar calidad del ron*; El Mundo, 18 de marzo de 1970, 4-b, *Prueban calidad de ron*. See also, Herminio Brau, *Objectives and Achievements of the Rum Pilot Plant.* Publication 21, Agricultural Experiment Station, UPR, 1960. Calixta Sánchez de Torres, *La Planta Piloto de Ron en tres tiempos*. Publicación miscelánea, Planta Piloto de Ron, Estación Experimental Agrícola, UPR, 1986.

9. Major Bibliographical References

Bibliography

Primary Sources

Archivo de Arquitectura y Construcción de la Universidad de Puerto Rico (AACUPR). Planos de la Planta Piloto de Ron.

El Mundo.

1 de marzo de 1950, 2. *UPR comienza a construir Planta Piloto*.
10 de diciembre de 1959, 32, *Técnicos explican logros de la Planta Piloto de Ron.*
7 de julio de 1962, 19, *Estudios para mejorar calidad del ron.*
18 de marzo de 1970, 4-b, *Prueban calidad de ron*.

Secondary Sources

Brau, Herminio. *Objectives and Achievements of the Rum Pilot Plant.* Publication 21, Agricultural Experiment Station, UPR, 1960.

Multiple Property Cover Document: *Development of the Rum Industry in Puerto Rico, 1520-1960*.

Rodríguez Benítez, Víctor. *Rum Research Work at the Agricultural Experiment Station*. UPR, Río Piedras, 1956.

Russell Hitchcock, Henry and Philip Johnson. *The International Style*. New York: W.W. Norton & Company, Inc., 1932.

Sanchez de Torres, Calixta. *La Planta Piloto de Ron en tres tiempos*. Publicación miscelánea, Planta Piloto de Ron, Estación Experimental Agrícola, UPR, 1986.

Previous documentation on file (NPS):

____preliminary determination of individual listing (36 CFR 67 has been Requested)
____previously listed in the National Register
____previously determined eligible by the National Register
____designated a National Historic Landmark
____recorded by Historic American Buildings Survey #_____
____recorded by Historic American Engineering Record # _____

Primary location of additional data:

____State Historic Preservation Office
__X__Other State agency
____Federal agency
____Local government
____University
____Other
Name of repository: University of Puerto Rico

Historic Resources Survey Number (if assigned): _____

10. Geographical Data

Acreage of Property Less than one acre

UTM References

	Zone	Easting	Northing		Zone	Easting	Northing
1	19	810285	2036522	3			
2				4			

Verbal Boundary Description

Rectangular lot recorded in the *Centro de Recaudaciones de Ingresos Municipales* (CRIM) under land registry number 086-030-837-21.

Boundary Justification
The nominated property includes the entire lot historically associated with the building.

11. Form Prepared By

name/title Juan Llanes Santos / Historian
organization Puerto Rico State Historic Preservation Office date June 8, 2010
street & number PO Box 9066581 telephone 787-721-3737
city or town San Juan state Puerto Rico
e-mail jllanes@shpo.gobierno.pr

Additional Documentation

- **Map:** A **USGS map** (7.5 or 15 minute series) indicating the property's location.
- **Continuation Sheets**

Photographs:

Name of Property: Rum Pilot Plant

City or Vicinity: vicinity

County: San Juan **State: Puerto Rico**

Photographer: Juan Llanes Santos

Date Photographed: June 10, 2009

Description of Photograph(s) and number: Main façade/ Northwest/ 0001

1 of 2.

Name of Property: Rum Pilot Plant

City or Vicinity: vicinity

County: San Juan **State: Puerto Rico**

Photographer: Juan Llanes Santos

Date Photographed: June 10, 2009

Description of Photograph(s) and number: Eastern section of Main façade / North / 0002

2 of 2.

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Rum Pilot Plant

San Juan, Puerto Rico

Name of multiple property listing (if applicable)

Development of the Rum Industry in Puerto Rico, 1520-1960

Fig. 1 Rum Pilot Plant, 2010

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

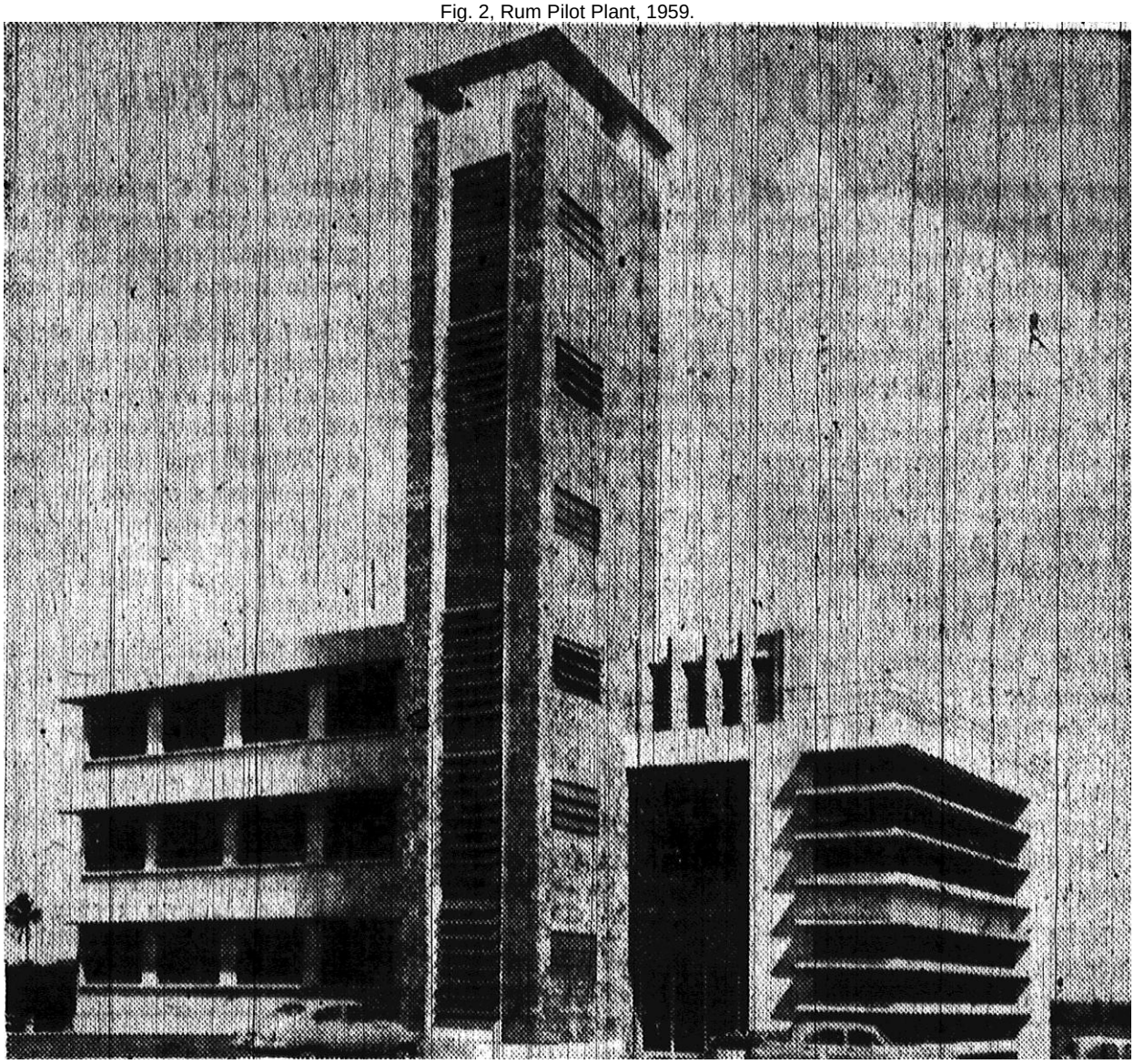
Rum Pilot Plant

San Juan, Puerto Rico

Name of multiple property listing (if applicable)

Development of the Rum Industry in Puerto Rico, 1520-1960

Fig. 2, Rum Pilot Plant, 1959.



United States Department of the Interior
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National Register of Historic Places Continuation Sheet

Rum Pilot Plant

San Juan, Puerto Rico

Name of multiple property listing (if applicable)

Development of the Rum Industry in Puerto Rico, 1520-1960

Rum Pilot Plant Site Map