



OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as "developed", "industrialized" and "developing" are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

FAIR USE POLICY

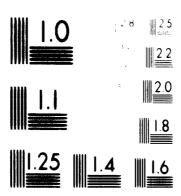
Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

Please contact <u>publications@unido.org</u> for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org

OF



MIN ROCCHY REPORTING No. 15 (2) A HART was the second of the second

24 × E

SYNOPSIS

Here, in a highly condensed format, are the major facts, conclusions, and recommendations of this study:

Findings of Fact

The Domsuiza manufacturing facilities were never completed. Some of the production equipment was not delivered. Much of it is outdated.

The existing facilities have suffered extensive deterioration and damage from weather and years of non-use.

The Domsuiza operation is seriously insolvent.

The balance sheet shows a working capital deficit of RD\$587,000.

The book value of fixed assets is overstated by more than RD\$2,000,000 as related to the current value of fixed assets.

Creditors' claims exceed the actual value of assets by more than RD\$2,700,000.

Restoration of plant facilities and the purchase and installation of missing equipment would require over RD\$1,000,000 additional investment capital.

After complete financial and physical restoration of the plant, full scale production would require an additional investment of over RD\$500,000 as working capital.

Product costs are heavily dependent on raw material costs which at Domsuiza are extraordinarily high.

Over 80 per cent of these raw material costs are from imported raw materials.

The existing Ozama and Barahona bagasse briquetting facilities are not capable of producing Domsuiza's annual requirements with existing equipment.

Conclusions

The extrusion process for producing bagasse particleboard is obsolete.

Veneered bagasse board produced with the Domsuisa extrusion process is qualitatively inferior to competitive products.

Financing for Domsuiza will be extremely difficult if not impossible to find.

Veneered bagasse board, plywood and veneer cannot be sold internationally at competitive prices.

Although some veneered bagasse board could be sold domestically at competitive prices, local markets are not large enough to sustain a profitable operation of Domauiza.

Domsuiza cannot be operated profitably producing veneered bagasse board, plywood, veneer, or any combination thereof.

Prefabricated bagasse board housing cannot be produced as inexpensively as cement houses.

Recommendations

Sanderson & Porter, Inc., based on the available facts, concludes that rehabilitation of the Domsuiza facilities will not prove profitable. It is our unqualified recommendation that the Domsuiza enterprise be liquidated and the buildings and acreage made available to other enterprises which could be productive and profitable.

BACKGROUND

Glossary

A study such as this necessarily contains many technical terms. For the reader who is unfamiliar with bagasse board technology, here is a glossary of these terms:

Additive: Any material added prior to final consolidation of a panel, to improve some property of the finished board or to achieve a desired effect in combination with some other additive material.

Back: Usually the rear or unexposed surface of a ply-wood sheet that requires normal strength, but does not demand any selection for appearance. Should be reasonably equivalent to the face in thickness and strength.

Bagasse fiber: The threadlike tissue (as distinct from pith) of the residue from the manufacture of sugar from sugar cane.

Bagasse particleboard: A sheet material manufactured from bagasse fiber by compressing and bonding together with one or more organic binders. Also referred to in this report as bagasse board.

Bagassosis: A respiratory disease caused by bacteria which breed in moist bagasse.

Barker: (1) a machine for removing bark from logs (2) a worker who removes bark from the log.

Binder: An organic adhesive material, usually a synthetic thermosetting resin such as urea-formaldehyde or phenol-formaldehyde, which provides the primary internal bond of finished particleboard material.

Blister (gluing error): A spot or area where the veneer does not adhere and bulges like a blister. It may be caused by lack of glue or adhesive or inadequate pressure. In hot pressing it may be caused by a pocket of steam, which often ruptures the veneer.

Block: That section of the log, usually 4 to 10 feet long, from which the sheets of veneer are cut.

Block setter: One who directs the placing of the log into the veneer lathe. The term blocker is also used in the industry.

Board foot: A piece of lumber 12 inches square (nominal) and 1 inch thick (nominal) or its equivalent in volume 144 cubic inches of wood.

Briquette: A mass of loose material (e.g. bagasse) pressed into a solid form.

Briquettor: A machine for forming briquettes.

Bulk storage: A place for, or the act of storing material in loose unpackaged form.

Case harden: To produce a hard surface on wood by heating or other methods.

Catalyst: A reagent that accelerates a chemical reaction, with or without heat. In the case of resinous adhesives, it accelerates setting or hardening. A hardener for resin adhesives.

Caul: Used in hot pressing, approximately 1/16" thick and the size of the hot-press platens. Plywood assemblies or veneered boards are sometimes inserted

between pairs of cauls, to facilitate loading the press, and to protect plywood faces from contact with the steel plates of the hot press.

Caul, plywood: Used in cold pressing with conventional glues, to assure undamaged faces and to prevent transmission of defects to adjacent assemblies. Usually 1/4 to 3/8-inch thick with waxed surfaces, to avoid adhesion

Checks: Small hairline splits which generally occur only in finely figured crotches and burls, caused chiefly by strain produced in the seasoning. In highly figured veneers these checks add beauty to the character of the figure and are not looked upon as defects.

Clipper: The shearing machine used to cut green or dry veneers.

Cooking vat, or heating vat: An open pit, containing water heated by steam, to cook or stew the blocks or flitches, to facilitate smooth knife cutting on lathes and slicers.

Core: (1) The center stock of a plywood panel.

(2) The center of a log that is left after it has been peeled on a rotary lathe.

<u>Cross-banding</u>: The veneer sheet(s) between the core and the face veneer. Its grain runs at right angles to the grain of the core.

Curing: The physical-chemical change that takes place either to thermosetting synthetic resins (polymerisation) in the hot presses or to drying oils (oxidation) used for oil-treating board. The treatment to produce that change.

Cut-up operation: In board remanufacture the process of reducing the size of panels.

Cyclone: A large conical chamber in which material is separated from a conveying air stream.

Density: The weight of a material in relation to its volume. Commonly expressed in pounds per cubic foot, or kilograms per cubic meter.

Dryer or drier, Veneer: A kiln, chamber, or machine, through which the green or fresh veneer sheets are passed, to remove the excess moisture.

Extruded Particle Board: Resin-bonded particle board manufactured by curing the resin in the particles while they are being forced through a die. A board manufactured with the applied pressure in the direction of the plane of the sheet and in the direction of the length as extruded.

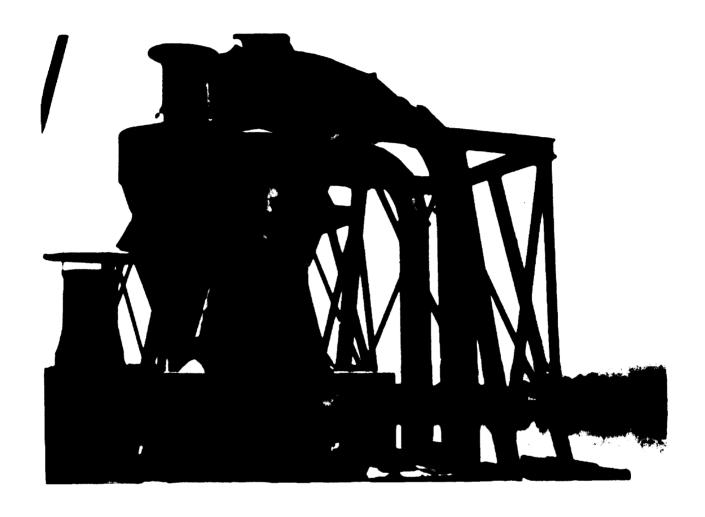
Face: Veneer used on the exposed side of plywood or veneered board, usually carefully selected and matched where appearance is required. When location or use demands, face veneer is used on both sides.

Face Veneer: The veneer sheet on the upper side of a plywood panel.

Feeder, regulating: A conveyor or similar device capable of adjusting the flow of the material being conveyed.

Fiber: The slender threadlike elements of wood, bagasse or similar cellulosic material, which, when separated by chemical and/or mechanical means, as in pulping, can be formed into fiberboard or particle board.

Fiber bundles: Threadlike groups of wood, bagasse, or similar fibers, held together by their natural binders, suitable for coarse pulps such as are used for fiberboards. Also sometimes referred to as "fibers."



GUNFIRE AND SHELL DAMAGE - 1965
DANO HECHO POR FUEGO
DE ARTILLERIA Y BALAS - 1965

Fiberboard: Sheet material manufactured from fibers of bagasse or wood, lignocellulosic materials with the primary bond deriving from the arrangement of the fibers and their inherent adhesive properties. Bonding agents or other materials may be added during manufacture to increase strength, resistance to moisture, fire, insects or decay, or to improve some other property of the product.

Fines: The fraction of refined fibers which are of the smallest size.

Flash Drying: Method used in dry process board manufacture to rapidly dry refined fibers in a fast-moving stream of heated air.

Flat-platen pressed board: Board pressed in a paralalel platen hot press, usually of a multi-platen type.

Applied pressure is perpendicular to the plane of the sheet.

Flitch: A hewn or sawn section of a log made ready for cutting into veneers by shaping up the edges.

Flying saw, automatic: A machine for cutting to length a mat or board moving in the direction of length while the mat or board is in motion.

Formation (forming): The laying of the blended mass of particles to form a mat for particle board.

Glue Spreader: A double corrugated roller machine to apply coatings of adhesive on both sides of the veneer or particleboard preparatory to the layup. Metal rollers are used principally with glues, and rubber rollers with resin adhesives.

Hammermill: A machine having rotating hammers for reducing the size of fiber or other material by a series of hammer blows against the material on parts of the machine including screens.

Hardboard: Compressed fiberboard of certain prescribed densities.

Hardwoods: General term used to designate the lumber or veneer produced from broad-leafed or deciduous trees in opposition to the so-called softwoods, those produced by evergreen or conferous trees.

Hog: A machine with interlocking blades which cuts the scrap into small chips for removal to the boiler.

Hot-pressing: Process of compressing the particleadditive mat to the required density and causing curing of the resin binder by means of elevated temperature; may be accomplished in multiple-opening hydraulic press or continuous-type press.

Lignocellulosic: Consisting of cellulose in intimate association with lignin; woody.

M: In this report the abbreviation used to denote the quantity 1000.

Mat: Uncompressed mass of particles or fiber intimately mixed with resin binder and other additives, formed to proper size and shape for pressing stages of manufacture.

Meg - Megger: (1) The electrical resistance to ground of a motor winding or insulated conductor expressed in ohms or megohms. (2) The instrument used to obtain this resistance.

Mixer: Machine in which correct proportion of particles or fiber, adhesive and sizing agent are mixed thoroughly to provide material for formation of mat.

Moisture Content: The amount of water in a body of material, usually expressed in percentage form as the ratio between the weight of water and the weight of dry material.

Multi-layer board: A board made of several layers of like material. Includes boards made from layers with particles of different shapes and sizes.

Multiple platen press: See Press, Hot press.

Overs: Particle or fiber aggregates too large to pass through a sizing screen.

Paddle mixer: A mixer for board additives having paddles to stir the material.

Panel: A sheet or piece of plywood, particle board, or veneered bagasse board.

Particleboard: A sheet material manufactured from small pieces of lignocellulosic materials (e.g. chips, flakes, splinters, fibers, strands, shaves) agglomerated by use of an organic binder together with one or more of the following agents: heat, pressure, moisture, a catalyst, etc. The primary bond derives from the combination of binder and agents used.

Patch: Insertions of sound wood placed and glued into veneer, from which defective portions have been removed.

Pith: The soft spongy center of a plant stem, specifically of sugar cane. One of the constituents of bagasse.

Pith Fraction: The part of the bagasse material that is pith expressed as a fraction or percentage.

Platens: The heat; bearing plates of the hot press usually of rolled steel with drilled holes in intersecting grid patterns for steam distribution.

Ply: A layer or lamination of a plywood panel.

Plywood: An assembled product made of layers of



DOMSUIZA 60.

UNITED NATIONS SANDERSON & PORTER. INC

veneer and/or lumber and adhesives, the chief characteristic of which is the alternate cross layers distributing the longitudinal wood strength. This product cannot be split, and shrinking and swelling under the influence of moisture is reduced to a minimum.

Press, (Cold press): A hydraulic or screwpress in which the glued members are forced together. The pressure is maintained after removal from the press by clamping the bale or bundle of glued members between headblocks with clamp irons and turnbuckle rods.

Press, (Hot press): A multiplaten hydraulic press with plates or platens, heated by steam for thermosetting resin adhesives.

Press, Hydraulic: A press in which hydraulic pump pressure is furnished to the press pistons or rams which usually operate upward in closing the press. Accurate pressure regulation is practical.

Ram: In this report, the part of the extrusion machine which produces pressure in the direction of the length of the board.

Remanufacture: A secondary process on an already manufactured board to upgrade its quality or use.

Residual Value: The present value of equipment and buildings to Domsuiza - assuming the plant is to be rehabilitated. Set at 10%-30% of original price depending on present condition. Typically higher than salvage value.

Resin: As used in this report, material which is the main binder in particle board and the adhesive in plywood manufacture.

Resin Content: The amount of dry solids of resin, related to the dry weight of the finished board.

Resin, Phenolic: Phenolic resin adhesives are made from phenol and formaldehyde, harden only in the presence of heat, and are the most durable. They are available in liquid, powder, and film form.

Resin, Synthetic (Thermosetting): Artificial resin used in board manufacture as a binder. A combination of chemicals which can be polymerized, e.g. by the application of heat, into a compound which is used to produce the bond or improve the bond in a fiberboard or particle board. Types usually used in board manufacture are phenolformaldehyde, urea formaldehyde or melamine-formaldehyde.

Resin, Urea: Urea resin adhesives are made from ureas and formaldehyde, harden when heated, and in the presence of certain chemicals (catalysts or hardeners). This hardening can be rapid and at moderate temperature.

Salvage Value: Value of equipment and buildings if sold on the open market.

Sliver Patch: A patch to upgrade face veneer of a shape nearly square in cross section and of considerable length compared to thickness.

Size: Alum, wax, petroleum, asphalt, resin or other material used as an additive in particle board manufacture, primarily to increase water-resistance.

Three Layer Panel: A particle board process which creates a differentiation between layers at the faces and in the center, with respect to density, type or size of particles, or other characteristics.

Veneer: A thin sheet of wood rotary cut, sliced or sawed from a log, block, or flitch. Veneer may be

referred to as a facing when adhered to one or both sides of particle or chip board, or hardboard. Veneer is the raw material for plywood manufacture. The thickness may vary from 1/100" to 1/4".

Veneer Splicer: A machine that joins fractional pieces of veneer either by tape splicer or by glue under heat and pressure on the tapeless splicer.

Wax, petrolatum: A petroleum product used in particle board manufacture to increase moisture resistance and surface smoothness.

Bagasse Board

Bagasse is a by-product of the sugar refining process. Normally it is used by the refinery as a fuel to produce steam. During the last thirty years, much effort has been focused on finding a more practical and profitable use for bagasse. One of the most common approaches to this problem is the bagasse particleboard plant.

Although there have been many bagasse particleboard plants built throughout the world, successful manufacturing and profitable marketing of the product has proved a complex and difficult assignment.

Several different processes are used in the production of bagasse particleboard. Although no single process has emerged as dominant, no successful process employs the extrusion press such as the one at Domsuiza. One mistake common to bagasse board manufacturers has been the utilization of equipment from suppliers in related fields. The assumption has been that machinery for producing conventional particleboards will work as effectively with bagasse. In almost all cases this has created operating difficulties, poor quality products, and marketing failures.

Generally, the development of bagasse particleboard technology has lagged behind that of the wood particleboard indstury. As a result, the quality of Domsuiza's veneered bagasse particleboard could not compare with that of boards derived from wood.

It cannot be said definitively whether or not bagasse board production is an economically viable enterprise. Production economies are almost totally conditioned by local variables.

The following are some case histories of bagasse particleboard plants:

Productos Cubanos de Bagazo, S.A.: This was the first "dry process" plant built to utilize bagasse as a raw material. Its first season of operation was in 1958. The equipment was supplied by Taylor Woodrow and U. S. Wallboard Machinery; it included a vertical moving platen type press. During its first year of operation, product quality problems were encountered which

resulted in unsuccessful marketing activity. In addition to poor quality there was an objectionable odor resulting from the resin used.

In an attempt to solve these problems, modifications were made in two plant areas: fiber preparation and mat distribution. In order to remove a greater percentage of the unusable pith from the bagasse a more sophisticated fiber preparation process was installed. With a new preparation system, the usable bagasse fiber yield was only 60 per cent. The pith was conveyed to the boilers to be burned as fuel for producing process steam. The main benefit obtained by refining the fiber preparation system used was through reduction of resin requirements and an improved mat formation operation. The pith had absorbed more resin than the high quality fibers. In the mat forming an optimum layering effect was obtainable only when high quality fibers were used. The new fiber preparation system improved the resin odor problem which in turn improved the quality based on normal measuring techniques. The disadvantages of the new system were higher initial cost, and higher operating costs due to increased amounts and complexity of equipment.

Since 1960 very little information is available but reportedly, this plant was closed down.

Taiwan - Manson Hardboard Corporation: This plant was the second "dry" process facility completed. The equipment was supplied mainly from U. S. Wallboard Corporation and was similar to that of Productos Cubanos de Bagazo, S.A.

It also was equipped with a vertical moving platen type press. The same problems were encountered in this plant with regard to resin odor and product quality. Equipment modifications have been made to overcome the initial difficulties. It is reported that the plant is running successfully today, but such information comes from equipment vendors and requires more objective verification.

Taiwan Sugar Corporation, Kaehsiung, Taiwan: Plant operations started here in 1960. The equipment and process were supplied by Baehre of Germany and included a vertical moving platen type press. The general contractor was Becker & van Hullen, also of Germany. This was the third facility to be installed using the "dry" process.

The boards produced are used in the building industry as partition walls, doors, floor underlayments and roof sheathing. Other product applications are claimed for the furniture industry, and for the interiors of ships.

During the sugar harvesting season, bagasse is baled and stored at the various mills operated by Taiwan Sugar Company. As needed, the bales are broken up and the loosened fibers are conveyed through a metal detector, a system of screens, air separators, mills, sifting devices and special dryers. During this stage the pith and fines are removed.

Moisture content is reduced to approximately five per cent in the dryers. The fibers are then weighed automatically by a continuous scale, and passed to a resin and fiber mixing device which is controlled by the scale. Close accuracy is required in controlling metering of the resin so that resin costs are minimized and a uniform mixture is assured. The mixture of bagasse and resin then passes to bunkers which feed it continuously to the forming machine.

The Bachre process can produce one layer or three layer boards, and by use of a special layering method can spread the finer particles on the surface of the board. This results in a surface which, after sanding, is suitable for direct face veneering without cross-banding.

The Baehre mat forming machine and its unique fiber laying technique appear to be the most attractive part of this system. It produces a board with unique surface quality, with most types of finishing to be applied successfully with a minimum of extra processing.

Fibrelite Corporation, Vacherie, Louisiana: This plant was originally built in 1962-63 by the National Building Products Corporation. The equipment came from Germany, with Baehre supplying the major processes. The plant was designed and built at a capital cost of well over \$2,000,000 and was equipped with a vertical moving platen type press.

Again, during initial operations, fiber preparation and product quality problems were encountered (these two factors are almost

always related). The same process and equipment changes for fiber preparation used at the Cuban plant were made at this installation. After an appreciable amount of development work a new fiber preparation system was evolved and patented. This system removed 30 to 35 per cent of the original bagasse as pith and fines. Additional changes were made in the material forming system and these helped solve the original problems.

The solution of these technical problems took more than 18 months and during this type there was little success in marketing. The plant attempted to supply all types of board to the entire United States market, this resulted in very high production, distribution and selling costs. In 1965 National Building Products was taken over by creditors in receivership proceedings.

The plant was subsequently purchased by principals of the Swiss Precision Machinery Company, San Juan, Puerto Rico. This company manufactures, designs, and sells equipment for processing bagasse and similar materials.

The name of the plant operating company was changed to Fibrelite Corporation and the product produced today is door cores. The fiber preparation system was changed to the Swiss Precision Machinery process. This basically consists of an SPM Hammer-mill and depithing machine. The plant today has reportedly been operating successfully and has been sold to new interests.

Tablopan de Venezuela, Venezuela: Started in 1965, this plant was designed by Columbia Engineering Company, in conjunction with the staff of Central El Palmar (the sugar mill providing raw bagasse), and was equipped with a vertical moving platen type press. Since an export-import bank loan provided 50 per cent of the capital financing, a major portion of the equipment must have come from the United States.

It is reported that this facility is capable of producing low, medium, and high density boards. Its production schedule for 1965 called for 9,000 tons; in 1969 it is expected to produce 14,000 tons.

The following claims are made for Durotab, the plant product which is used for simple and economical forms of construction: it has

two identical and perfectly smooth surfaces; it can be supplied perforated; it can be easily cut with common tools; it has a long usable life and is resistant to water, moisture, and atmospheric penetration, special treatments render it termite and fungus proof; it is manufactured under rigid controls to meet the most rigorous standards set for hardboard, and paper products production.

Based on extensive testing, the company has developed techniques for the production of Mustitab, a strong, rigid board for manufacture of modern furniture. It is similar to Durotab, but it can be used "as is" with veneers which are glued on using hot or cold methods.

Another proposed product is Sonotab, an insulating board for large surfaces. Because of its low thermal conductivity, the product can also be used as a sound barrier thermal insulation. In addition, painting will not alter its properties. Sonotab is suggested as a thermal and sound insulation for ceilings, roofs, and walls.

At present, the Tabloplan plant uses 20,000 tons of raw bagasse per year. The investment in equipment and other assets exceeds \$3,000,000.

Bagapan, Reunion Island: This plant was started in 1965. The process and equipment was provided by Siempelkamp of West Germany. Its press features the caulless tray system, and the plant is equipped with a vertical moving platen type press.

The caulless tray system has not worked as efficiently as had been expected. Retention time in the press (and pre-press, where one is used) is short, so that in order to achieve proper settings, higher than average resin dosages are required. Since resin is a high cost import, this increases raw materials costs and working capital requirements.

No reliable information on product quality or acceptibility is available.

Ecoploy, S.A., Mexico City: This was a second hand "dry process" plant of simple design. It was supplied by Wayrock of the United

Kingdom and featured a vertical moving platen type press. Interestingly, this was the only bagasse board plant using an Emerite resin.

The plant was a successful operation, based on a narrow product line, low depreciation charges, (second-hand equipment) and a simple straight line operation. Sophisticated equipment was not used here because of an abundance of low cost labor. Reportedly, the plant has been shipped to Western Mexico closer to the material supply where it has been rebuilt.

Bagasse Products Company, Ltd., England: The only information available on this new company was in the following report from the International Sugar Journal:

Tate & Lyle Ltd., were joining the S. Hille & Co. Ltd. a United Kingdom furniture making company, in the formulation of a new company, Bagasse Products Co. Ltd. Bagasse is imported from the Tate & Lyle Group of sugar factories in the West indies, where, after pressing into low density bales and storing for four to eight months in the open air, the moisture content is reduced from 50 to an average of 15 per cent. After this curing period, the bales are compressed again into high density bales and shipped to Plaistow Wharf where a pilot plant was installed in September 1964 to produce "Bagelle".

This product, supplied in board and loose form, is prepared from the bagasse fiber and contains 15 per cent of thermosetting phenol-formaldehyde resin and other additives. The "Bagelle" board is a semi-cured partly compressed board designed to allow users of laminating presses to manufacture strong, waterproof, exterior grade board in thicknesses of five mm(3/16 inch) or more to their own requirements, as well as moulding three-dimensional objects using techniques developed by Bagasse Products Co., Ltd.

The "Bagelle" boards can be produced in sizes up to eleven feet by three feet-one inch, and can be processed to allow varying density, strength and thickness. They can be cut to shape, moulded and faced with wood

veneers, melamine papers or fabric and, since the material displays no "telegraphing" or show-through on core material, it needs no sanding before facing. Screw threads and metal fittings may be incorporated during pressing.

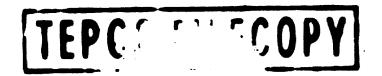
Standard Building Products, Ltd., Jamaica: This is a large new plant presently operative. Details of the process and equipment are kept confidential and visitors are not allowed to visit the plant. The following is an April 1967 press release which summarizes the project:

The first completion stage of Standard Building Products, Ltd's \$9,250,000 bagasse board plant near Spanish Town has been completed. The Esso owned and operated plant is expected to be in operation by October. This first phase includes the installation of equipment necessary for processing bagasse into pellets for storage.

Construction began at the 15-acre site in November 1965. Two North American firms, Columbia Engineering Company and Johnson & Johnson, Engineers & Architects, Inc., are responsible for the mechanical design and engineering but the construction work and installation of equipment have been sub-contracted to local contractors.

Several buildings have been completed to date, including the bagasse pellet storage building (capable of containing 20,000 tons of compacted bagasse for use out of crop), an administrative block, power house, machine shop, bagasse fiber disintegrating mill and raw bagasse drying unit. Tests are currently being made on the pellet-forming machinery prior to processing bagasse for storage.

Standard Building Products will be able to utilize 75,000 tons of raw bagasse annually for conversion into 30,000 tons of high quality building boards. This represents approximately five per cent of the total bagasse available on the island each year.



Comme 10. 76, 7.

TECHNO-ECONOMIC STUDY INDUSTRIAL DOMINICO SUIZA, C. POR A.

PREPARED

FOR

THE

UNITED NATIONS

April 1969

SANDERSON & PORTER, INC.

New York, New York

Approximately 2/3 of the plant's output will be exported during its early years until domestic demand increases. Although several plants in the world utilize bagasse as a raw material for the production of particleboard, none of the plants are currently producing as wide a range of products. In addition, it is claimed that no particleboard has yet been commercially produced with the smooth hard surface that the Jamaican plant is designed to manufacture with its vertical moving platen type press.

Particleboard _____

The veneered bagasse board that is Domsuiza's chief product is classified by the industry as a particleboard, thus general trends for this kind of product have been examined.

Particleboard provides a means of utilizing forest logging wastes or other lignocellulosic fibers previously unsuitable for anything except fuel. The growth of the particleboard industry since the first commercial plant was constructed in 1941 has been spectacular. Typically these plants are located close to the source of raw material and end markets. Usually, they can be built and operated for much less than plywood mills or hardboard/insulation-board plants. They are particularly attractive investments for saw mills and furniture manufacturers who can thus take advantage of waste materials.

World Market: In 1969 plywood is expected to comprise approximately 52 per cent of the world market for panel-boards. Particleboard will supply 26 per cent of this market and fiberboard will account for 22 per cent. Analysis shows that the particleboard share of this market has increased by nearly 4 per cent since 1966. Utilization of plywood has decreased by 3 per cent and the fiberboard figures remain the same.

For the same period, the world's production capacity for panelboard increased by 20-25 per cent. Of this, particleboard showed the greatest increase (45 per cent), while plywood production capacity increased 20 per cent and fiberboard 15 per cent.

Production of Plywood and Particleboard Within the United States (1000 ft)

Exhibit A

Source: U.S. Department of Commerce, Current Industrial Reports, Series MA-24.

Area Markets: Regional statistics also show that area by area plywood accounts for the largest single product share of the panelboard market. In the USSR, 47 per cent of the panelboard sold is plywood. In Asia and the Far East, plywood's share reaches 85 per cent, and in Europe plywood producers have captured half the panelboard market. In Oceania (the Islands and Archepelagoes of the South Pacific) plywood and particleboards account for half the total market while fiberboards supply the other half.

In the United States particleboard production has expanded over the last five years at an average annual growth rate of 23 per cent. Between 1963 and 1967 particleboards increased their share of the total United States panelboard market by 6 per cent (see Exhibit A below).

Production Methods: An examination of particleboard production methods reveals a significant trend away from the extrusion process such as the one found at Domsuiza. In the United States, extruded particleboard has lost more than 50 per cent of its share of the panelboard market in the last five years. This is attributable to a lack of manufacturing flexibility and product weaknesses. Although 18 new particleboard plants are to be constructed in the United States during 1969 none of them will employ the extrusion process. Most extruded particleboard plants operating in the United States today are captives of furniture manufacturers in the South. Their product has a reputation within the United States market for being structurally weak. It normally requires cross-banding to meet minimum strength standards. Nineteen new particleboard plants were established in Latin America between 1966 and 1969. None use the extrusion process.

An examination of the particleboard industry yields two fundamental conclusions about the extrusion process: it produces a qualitatively inferior product, it has become obsolete.

The Domsuiza Project

Industrial Dominico Suiza C. por A. was originated in 1960 as the operating company for the Domsuiza veneered bagasse board plant. The plant was to have utilized sugar cane bagasse as a raw material. It was to have been processed into a panelboard, and subsequently faced with veneer. Domsuiza's planners expected that the boards, and the plant itself, through the addition of related production lines, would become an integral part of the nation's low income housing effort.

It was thought that the plant would receive more than 90 per cent of its raw materials from local sources, thus indirectly reducing the costs of sugar production by using the previously almost worthless waste. Substantial savings on foreign exchange and alleviated housing costs were also projected.

The fully engineered program for Domsuiza was never completed, and much of the equipment was never installed. A portion of the supplementary machinery was sold before shipment from Germany to satisfy import debts. Some of it was diverted to Puerto Rico where it is still in storage.

Removal of equipment, deterioration, and war damage have taken a considerable toll on the plant's physical condition. In combination with drastic rises in the cost of labor and raw materials, and the development of competitive production processes, this has completely altered the economics of production.

The authorized capital for Domsuiza was RD\$3,000,000. The operating company, combining Dominican and Swiss interests, was backed by financial institutions of both countries. Recent financial statements are contained in Exhibit D. The majority interest in the plant is owned by the Corporacion de Fomento Industrial, an agency of the Dominican Government.

The National Economy

The present government has maintained a balanced budget for the past two years. In 1967 military expenditures decreased 17 per cent and expenditures for infrastructure increased 23.5 per cent.



DOMSUIZA PLANT - FRONT VIEW
VISTA DE FRENTE DE LA FABRICA DOMSUIZA

Government revenues for the first ten months of 1968 were RD\$155,500,000, an increase of RD\$12,500,000 over the same period in 1967. A budgetary surplus is expected for 1968 due to large sugar shipments made in November and December to fulfill the recently increased United States sugar quota.

The operations of the government are being restricted by an austerity budget due to the financial condition of the country. External debt at the end of 1967 was RD\$180,000,000, and the debt service requirements will peak in 1969 when interest payments reach a maximum and when short term debt contracted by previous governments come due. External debt payments have been met scrupulously over the past few years regardless of the political and financial difficulties which have beset the country. Government authorities claim that the need for the austerity program will cease in two years. While foreign businessmen and embassy officials are optimistic about the capability of the government to service the debt on schedule, they believe that the austerity program should continue for a minimum of three years and perhaps for a fourth year as well.

Since 1964 the gross national product has hovered around the RD\$1,000,000,000 mark. In 1966 the total value of all exports was RD\$137,500,000. In 1967, this total was RD\$157,000,000. Exports in 1968 are expected to show a similar increase. In 1967 the value of exports to the United States was RD\$133,000,000. In the first half of 1968 an estimated RD\$83,000,000 of goods were exported to the United States. The principal non-agricultural export is bauxite which represents about 8 per cent of the total value of all exports.

In 1967 the total imports were estimated at RD\$172,100,000, of which RD\$98,000,000 came from the United States. In the first half of 1968 imports from the United States were estimated at RD\$57,000,000. The major imports are wheat, vegetable oils, automobiles, tractors, pharmaceuticals and construction equipment.

In 1968 the Dominican Congress passed a new industrial incentive law with the intent of stimulating foreign and domestic investment in new or existing industries. Industries manufacturing products wholly for export will receive the greatest benefits through exemptions from all import and export duties and through tax concessions for periods up to 20 years. Other types of industries manufacturing products for local consumption will receive lesser benefits.

At the end of 1968 those responsible for the Republic's economy and finances had some reason to be pleased with the economic situation. The two year drought the country had experienced ended in the spring of 1968 and the outlook for agriculture, the nation's mainstay, was much improved. Sugar exports were up due to the increase in United States quotas. For the first time in years it may be expected that the overall balance of payments for 1968 will be favorable, taking into account receipts from the United States and other foreign loans.

The internal budget for 1968 is expected to be in balance. The significant change from 1965 is that United States aid, which was used at that time to pay salaries and keep the country afloat, has been diverted to investment projects and the government has been able to divert an increasing amount of internal resources to the same end.

The 3.6 per cent population increase per year when coupled with 30 per cent or more unemployment represent severe economic strains as well as political dangers. The C.I.A.P. (International Committee of the Alliance for Progress) estimates the Gross National Product growth for 1968 to be 3.5 per cent, approximately the same as the population growth. Unofficial estimates, which are considered reliable, put the Gross National Product increment much lower, i.e. between 2.1 per cent and 2.6 per cent. This indicates that per capita income is deteriorating.

Well reasoned forecasts of the future growth pattern of the Republic's economy or specific sectors thereof are exceedingly difficult to obtain. The December 1968 U. S. Department of Commerce report comments. "... the Dominican Republic's per capita Gross National Product growth rate in the medium and long term should reach and surpass the minimum of 2.5 per cent established by the Alliance for Progress."

Exhibit B shows the projected structure of government expenditures by sector in 1970 and 1985. It shows two items of interest to this report: a total expenditure of RD\$1082.5 million in 1985 compared to a total expenditure of RD\$340.3 million in 1970, representing a gain of RD\$742.2 million in 15 years.

These figures indicate a projected annual growth rate of governmental expenditures of $7\frac{1}{2}$ per cent per year in the Republic. Although this economic growth rate might be achieved for a short period of time, it is unlikely that it could be sustained for any protracted period. For projecting market demand and consumption of cellular based panels, 5 per cent is a more likely upper limit for estimated annual growth.

Investment Climate

National projections indicate an annual investment requirement (either foreign or domestic) of RD\$80,000,000 a year.

Foreign investments have usually vacillated in response to political conditions and estimates of national stability. They declined sharply during the civil war in 1965, and the country has only partially recovered its allure for the foreign investor. Today, foreign capital will not flow into the Republic as readily as desired. As time passes, however, this reluctance diminishes; it has diminished appreciably in the past year. Nonetheless, foreign investors can be relied upon to take a most penetrating look at any new investment proposal.

The Dominican government has actively expressed its desire for foreign investment. This interest is clearly stated in Lav No. 292 (June 1968) relating to companies that promote economic development and Law No. 299 (April 1968) for industrial protection and incentive.

Domestic investments, according to most reliable sources, are not being generated rapidly enough. Most foreign observers feel that Dominicans are somewhat delinquent in investing in their own internal commercial activities. Sources within the Republic confirm this, but apparently the situation is improving. It is still impossible to tell when a normal internal investment level will be reached, but Dominican businessmen and investment organizations are reported to be making progress.

For Domsuisa, this investment climate has serious implications. The facts that,

The plant was never really completed

It has been largely idle for many years

It has seriously deteriorated

The entire operation is heavily burdened with debt

all militate against investment in Domsuiza.

Sources of investment contacted were:

First National City Bank.

Financiera Dominicana, S.A.

Banco de Bogota, Colombia.

French American Banking Corporation.

Banco Inmobiliaro Guatemala.

Banco Central da Reserva de Peru.

Bank of Montreal Canada.

Chase Manhattan Bank.

Banco Popular de Puerto Rico.

Banco Comercio e Industria Rio de Janeiro.

U.S.A.I.D.

Although some of these potential investors expressed a nonspecific interest in the Dominican Republic, there is little doubt that the present investment climate of insecurity and doubt, in combination with Domsuiza's present insolvency, preclude the chance of attracting the capital necessary to rehabilitate the plant.

Projected Structure of Government Expenditures by Sector, 1970 and 1985

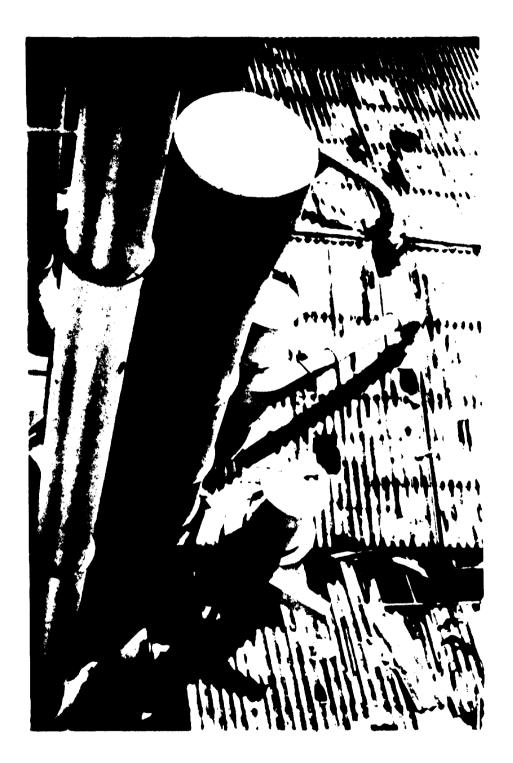
		19	0261	1985	5.	
		RD\$	Percent	RD\$	Percent	
		(Millions)	of total	(Millions)	of total	
	Development of Human Resources	RD\$125.9	37.0	RD\$ 476.3	44.0	
;	Fducation	42.9	12.6	163, 5	15, 1	
	2 Sanitation	40.1	11.8	154.8	14.3	
	3. Social security and welfare	12.6	3.7	43,3	4.0	
	4 Community services	15.0	4.4	51.9	4.8	
	f Housing	15,3	4.5	62.8	5,8	
E	Je Housing Infrastructure Develonment	37.4	11.0	9.98	8.0	
;	Transportation and storage	32.6	9.6	65.0	0°9	
	2 Comminications	4. 8.	1.4	21.6	7.0	
	3 Doner	•	:	:	;	
III	, C	46.0	13.5	129.9	12.0	
		36.5	10.8	81.2	7.5	
	2. Industry, mining, and commerce	9.1	2.7	48.7	4.5	
	3. Other services	0.4	;	8	:	
11	נ	115.7	34.0	324.7	30.0	
•		48.7	14.3	133, 1	12.3	
	2. Defense	40.2	11.8	1111.5	10.3	
	3 Interior and police	19.2	5.6	55.2	5, 1	
	A Tuefice	5, 1	1,5	16.2	1.5	
	T. Donoing offsire	2.7	8.0	8.7	8,0	
>	ĕ	15.3	4.5	65.0	6.0	
	Total (7 III II V)	RD\$340.3	100.0	RD\$1,082.5	100.0	
	10td1 (1, 11, 11, 11, 17, 17,		1 1	•		

1 Mainly public debt.

Source: Plataforma para el Desarrollo Economico; Social de la Republica Dominicana

CONTENTS

	Page
INTRODUCTION	1
SYNOPSIS	4
Findings of Fact	4
Conclusions	5
Recommendations	5
BACKGROUND	6
Glossary	6
Bagasse Board	16
Particleboard	23
The Domeuisa Project	25
The National Economy	25
The Investment Climate	28
PRODUCTION	30
Domsuisa Products	30
Raw Materials	31
Manufacturing Operations	36
Briquetting	36
Particleboard Extrusion	37
Veneered Bagasse Board	39
Veneer and Plywood	40
Equipment Testing	41
Production Problems Anticipated	42
Inventory Evaluation	44
Equipment	44
Buildings	44
Missing Equipment	46
Summary Evaluation	46



DETERIORATION AND BATTLE DAMAGE
DETERIORO Y DANO DE BATALLA

PRODUCTION

Domsuiza Products

If restored and completed, the Domsuisa plant would be capable of producing these basic products:

Bagasse particleboard Veneered bagasse board Veneer and plywood Miscellaneous products

Bagasse particleboard at Domsuiza is produced by an extrusion press which, because of its design (this is discussed in more detail later in this report) does not produce a usable particleboard unless it is overlayed by other material. This material was to have been veneer.

The plant's bagasse particleboard equipment was set up for producing 11/16", 4' x 8' board in the density range of 25 to 35 pounds per cubic foot. The boards are light grey in color, very low in strength, and high in water absorption characteristics. Since it is a homogenious particleboard (that is, without a concentration of finer fibers on the surface of the board) both sides are relatively rough with coarse particles in the finish. This is the least desirable of all particleboards.

Veneered bagasse board is produced by facing each side of the bagasse particleboard with a thin wood veneer. This adds considerably to the manufacturing cost but does render the panel usable and more attractive. The veneered bagasse board panels are as strong as competitive unveneered particleboards. Ordinarily a 1/20" veneer is used on both sides of the panel, and this reduces the board's water absorptive tendency. Even then, however, care must be taken not to expose the soft, low density edges of the boards to moisture.

Veneer and plywood of conventional grades can be produced if Domsuisa is restored and completed. Both of these products would be of the conventional type. Veneer is produced by turning a log in a large lathe and as it turns by peeling off a thin sheet of the veneer. Once dried, the veneer would be a suitable Domsuiza product and could be sold as raw material for other finishing plants. Ordinarily, veneer is sold in 4' x 8' panels of 1/20" to 1/8" in thickness. Plywood, a cross grained assembly of veneer layers, is usually sold in the same 4' x 8' panels at thicknesses from 3/16" to 3/4".

Miscellaneous products are the moulded goods which the plant was to produce, and the goods produced by the cut up operation (prefabricated houses, furniture, shelves, etc.) These are manufactured products, covered in the Marketing section of this report. Most of the orders for moulding equipment were cancelled. It is probably fortunate that Domsuiza did not make the expenditures needed to produce these complex products.

Raw Materials

Bagasse is produced in large quantities as a by-product of the sugar industry. Although it is commonly held that bagasse offers an economic raw material for use in the manufacture of particleboard, this is not the case within the Dominican Republic. Competitive particleboard manufacturers in the United States and in other countries pay much less for their basic raw material. An examination of some of the factors underlying the high price of Dominican Republic bagasse follows:

Plant location for most competitors is either adjacent to or very near the source of raw material supply. For example, U. S. particleboard plants which use wood chips are normally located near a saw mill or next to a furniture factory. In such cases transportation cost for the raw material is small. By comparison, Domsuiza has been located far from the sources of bagasse - 140 miles from Barahona and 10 miles from Osama and the transportation cost is high. Adding to this cost is the waste material that is carried along with the bagasse to Domsuiza. Pith and fines should be

separated at the mills and burned as boiler fuel, insstead they are transported the entire distance to Domsuiza where they must then be removed and disposed of. By weight nearly 40 per cent to 50 per cent of the bagasse raw material is waste. This nearly doubles the transportation cost for the usable material.

The price for raw bagasse is RD\$15 per ton f.o.b. Dom-suiza. Removal of the pith and fines raises the cost for usable raw materials to about RD\$25 to RD\$30 per ton. This is an exceptionally expensive raw material for manufacture of particleboard. As far as is known no particleboard plant in existence is paying such a high price for their basic raw material. Domsuiza's cost is three times the RD\$10 per ton cost of bagasse supplied to a large, modern Carribean competitor.

Raw material cost for particleboard manufacture is dependent on alternative uses for the raw material. At many wood particleboard plants raw material is purchased at a cost of from RD\$5 to RD\$15 per ton, mainly because there are no other attractive uses for the waste wood. On the other hand, the bagasse which Domsuiza uses is also used for boiler fuel at the sugar refineries and oil must be imported and substituted as a fuel to replace the bagasse diverted to Domsuiza. Oil is not a cheap substitute within the Dominican Republic and conversion to oil burning equipment is costly.

The seasonal nature of the sugar industry requires a large stockpiling of bagasse. During the six months when bagasse is available Domsuiza must purchase a 12-month supply to assure continuous manufacturing operations. This ties up working capital. The working capital required to finance this bagasse inventory would vary from about RD\$15,000 at the beginning of the sugar producing season to a high of RD\$90,000 in the period immediately preceding the end of the season.

Summarizing, basic raw material availability and cost are crucial factors in determining the potential viability of companies competing

for the particleboard market. Because of the high cost of raw bagasse, Domsuiza faces a significant competitive disadvantage in the world market. In brief the reasons contributing to the high cost are:

Plant location is not close to the source of raw material.

Waste material amounting to almost 50 per cent by weight is purchased.

Bagasse has value as a boiler fuel at the sugar mills.

Oil must be imported as a substitute fuel for bagasse.

Conversion to oil burners is costly.

Large bagasse inventories are required because it is not available during certain seasons.

Imported Raw Materials: Among the original assumptions underlying the Domsuiza venture was the belief that this venture would take advantage of indigenous raw materials, reduce imports, and save foreign exchange. It was thought that 80 per cent or more of the material required for production would be local. By volume or weight this is true: more than 80 per cent of the product is comprised of fibrous bagasse. However, considering the total cost of raw materials required for production, this is a misleading statement. More than 80 per cent of the raw material cost comes from imported raw materials. Operating Domsuiza will neither reduce imports significantly, nor will it produce considerable foreign exchange savings.

For all the marketable products of the plant, <u>logs</u> must must be imported for processing into veneer. When the Domsuiza venture was in the formative stages some logs were available locally. Since then some depletion of local timber reserves has resulted in governmental regulations forbidding logging.

A survey of the various South and Central American countries exporting logs indicated that Cativo from

Colombia would be the best species to import for Domsuiza's purposes. It is one of the few species of South American logs profitably being imported into the United States for veneering. Among the companies using it are the Pascagoula Veneer Company of Pascagoula, Mississippi and the Bacon McMillan Company of Stockton, Alabama. Cativo is a semi-hard wood, among the least expensive of veneering logs, and it is abundant in supply. Cativo delivered to Domsuiza would be RD\$120 per 1,000 board feet (Doyle Scale), including approximately RD\$45 freight.

It must be noted that South and Central American countries show an increasing tendency to restrict exports. These governments feel that indigenous industry should be developed with local raw materials, and in many areas have even banned log exports. Equador, Nicaragua, and recently Brazil are among countries prohibiting log exports and if Colombia also were to embargo log exports the cost of raw materials for Domsuiza would take a significant turn upward.

Other imported raw materials necessary for producing veneered bagasse board include resin, for the bonding of the bagasse fibers, hardener, for setting the internal bond; wax, to increase moisture resistance and surface smoothness; pentachlorophenal, a necessary additive for termite protection; and phenol resin glue, for gluing on the veneer facing. Annual raw material requirements are shown in the following table:

Annual Domsuiza Raw Material Requirements
Veneered Bagasse Board

Raw Material	Quantity per Day	Unit Price	Full Capacity Annual Cost (250 Days)	Percentage of Total
Bagasse (local)	48 tons	RD\$15/metric tons	RD\$180,000	19.4%
Resin (import)	6, 300 lb	.10/lb @ 60% solids	325,500	35.0
Hardener (import	630 lb	. 16/1ь	25,250	2.7
Wax (import)	1,260 lb	.10/lb	31,500	3.4
Pentachlorophenol (import)	630 lb	.40/lb	63,000	6.8
Logs (import	7,600 bd. ft	RD\$120/1,000 bd.ft	228,000	24.5
Phenol Resin Glue (import)	76,000 ft ²	RD\$4/1,000 ft ²	76,000	9.2
Total			RD\$929,250	100.0%

It is evident from the foregoing tabulation that imported raw materials dominate the total raw material costs required for producing veneered bagasse board. The annual requirement for raw materials is RD\$929, 250 of which locally procured bagasse represents only RD\$180,000. Imported materials are 80 per cent of the total raw material cost. Indirectly, this imported cost is even greater since oil must be brought in to replace the bagasse as fuel at the sugar mills.

Plywood and Veneer production lines at Domsuiza also depend on imported raw materials. In both of these cases 100 per cent of the raw material requirements of logs and phenol resin glue are imported. In all cases in calculations of production costs, import

duties on the raw materials were not included since for the operation to be viable would require development of a substantial export market; and under the industrial incentive laws imported materials which will be used for export products are duty exempt.

Manufacturing Operations

The following process description is based on the Plant Flow Diagram (which is included with pertinent site, plant, and machinery layout drawings as Exhibit C) and has incorporated minor changes that are advisable. Material balance and process capacities are included on the Flow Diagram. Detailed descriptions of each machine are given in the equipment inventory, and for the sake of clarity, machines will be referred to using general terminology (i.e. hammermill).

Briquetting is the first step in the Domsuiza process and is done at the sugar mills. In the briquetting plant the fibrous raw bagasse is milled, dried and then compressed into briquettes for transportation to Domsuiza. Briquettes are about 3" in diameter and from 1/8" to 3" in length. Piled in loose bulk storage briquettes weigh 32 pounds per foot³. Two similar briquetting plants have been installed: one at the Ozama sugar mill and one at the Barahona sugar mill. A schematic layout of these plants is also included in Exhibit C.

At the beginning of the briquetting process the raw bagasse is at approximately 100 per cent moisture content (calculated on dry basis, one-half bagasse and one-half water) and consists of chopped up pieces of material similar to corn stalks, about one to four inches long. The raw bagasse is diverted from the overhead conveyor that feeds the boilers and is fed by means of a chute to a hammermill which reduces it to a more uniform size of approximately 1/2" maximum length. Next it is conveyed by air through a fan to a cyclone. The air is discharged from the top of the cyclone; the bagasse is discharged through the bottom and introduced into a pipe line of hot air. This air is heated by an oil burner, and with the bagasse, is fed into a large fan. The fan

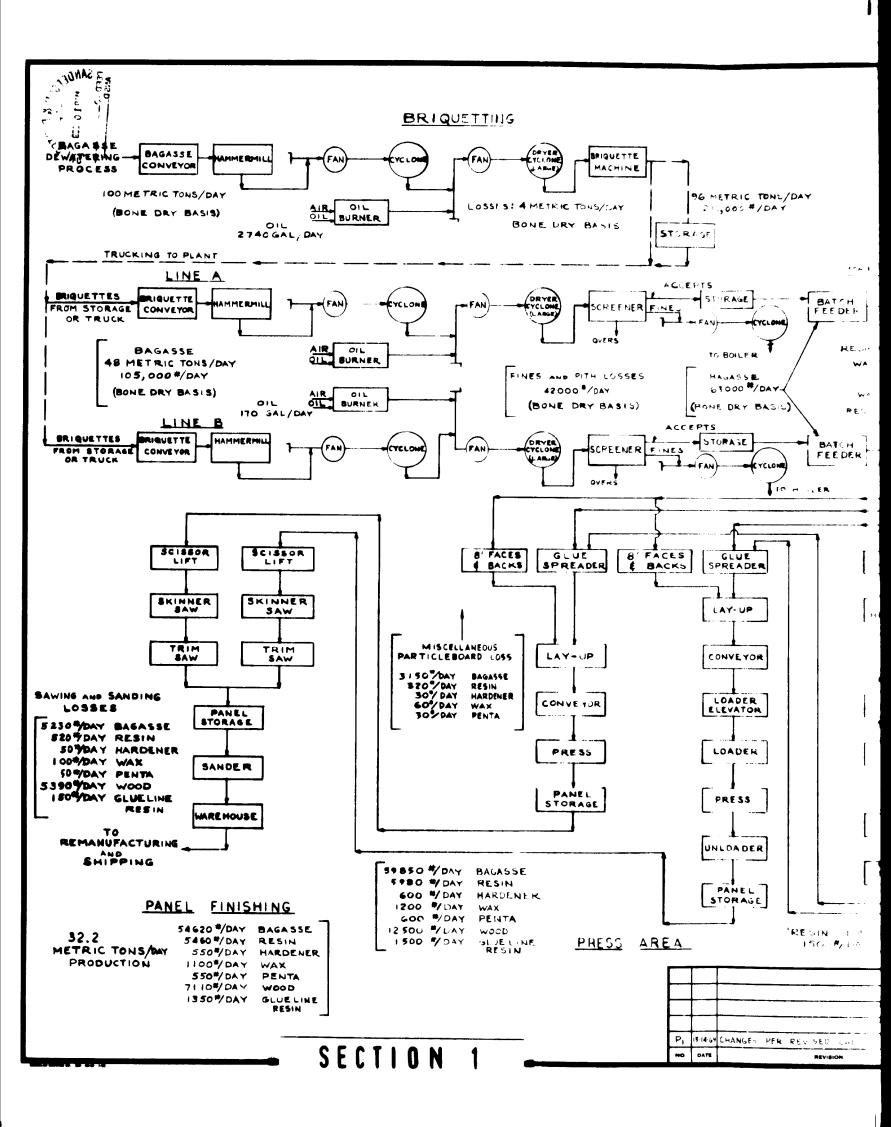
discharges the hot air and bagasse mixture into a large vertical standpipe and then into another large cyclone. This sequence of steps acts as a flash drying process and reduces the moisture content from approximately 100 per cent dry basis to 10-15 per cent. The hot gasses and steam are discharged from the top of the cyclone and the bagasse is passed out the bottom into a briquette feeder. The feeder has adjustable speeds and drops the bagasse directly into the briquette machine where it is then compressed into briquettes. The briquetted bagasse is piled on the floor ready to be loaded for transportation to Domsuiza.

The briquetter at Ozama has a single head and is reportedly capable of producing about 20 tons per 24 hours of operation. The briquetter at Barahona has a double head and it has been reported that it will briquette as much as 40 tons per 24 hours. Since the sugar mills operate on the average for only six months per year it is necessary to briquette enough bagasse during this season for 12 months operations at Domsuiza. One out of every two truck loads of bagasse that are taken from the sugar mill must be stored. As developed later in the Economics section of this report 48 tons (dry basis) bagasse fiber are required per day to produce 30 tons of bagasse particleboard. Since half of the bagasse must be stored, the required production of bagasse briquettes is 96 tons per day during the sugar milling season. Total present capacity of the briquetting plants is only 60 tons per day.

Particleboard Extrusion: In the Flow Diagram (Exhibit C) production lines A and B are shown representing the manufacturing process for bagasse particleboard. These lines are identical. At one time it was intended to set up a third line, however, since there were only a few items of equipment delivered for this additional line, the equipment was held as spares for lines A and B.

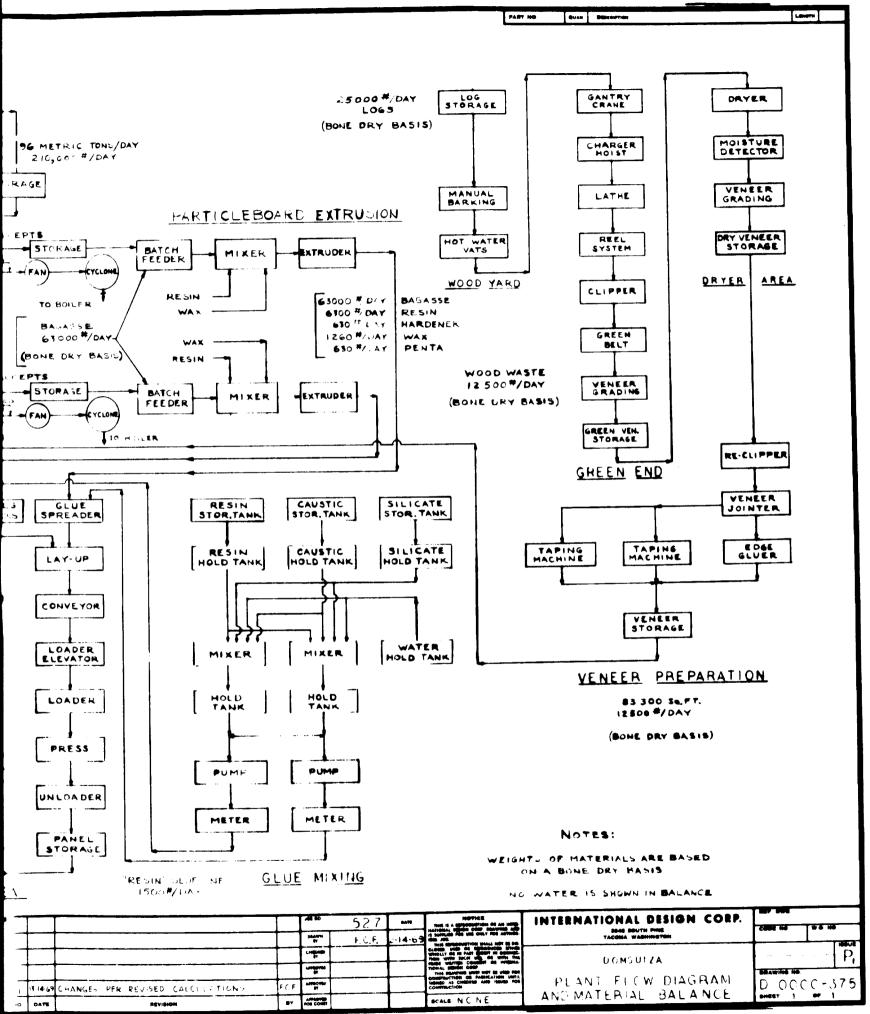
The first phases of the production steps at Domsuiza are similar to the steps taken in the briquetting plants.

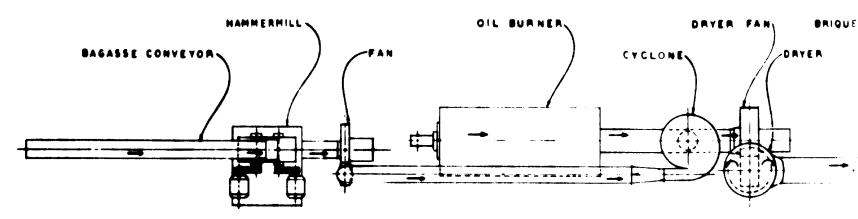
That is, the briquetted bagasse is milled and the moisture



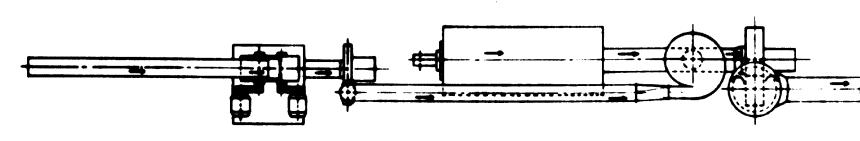
CONTENTS (Continued)

	Pege
ECONOMICS	47
Financial Position	47
Capital Requirements	49
Projected Operating Costs and Selling Prices	51
Cost/Benefit Analysis	53
MARKETING	56
Veneered Bagasse Board	57
Product Evaluation	57
Domestic Market	59
Export Market	66
Plywood	66
Product Evaluation	66
Domestic Market	67
Export Market	67
Veneer	68
Product Evaluation	68
Domestic Market	69
Export Market	69
Summary	70
STRATEGIES	72
Original Operational Plan	72
Operating Plan A	73
Operating Plan B	73
Plan C (Recommended)	74



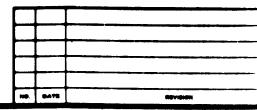


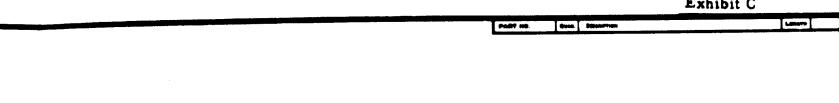
BRIQUETTE LINE AT BARAHONA

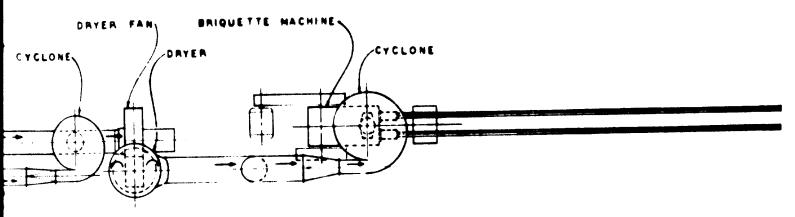


BRIQUETTE LINE AT OZAMA

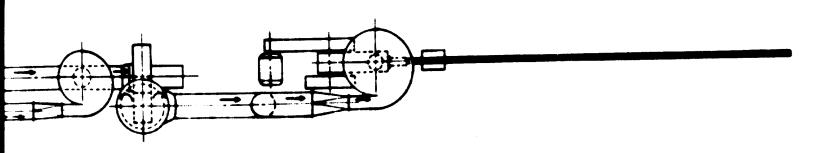
SECTION 1







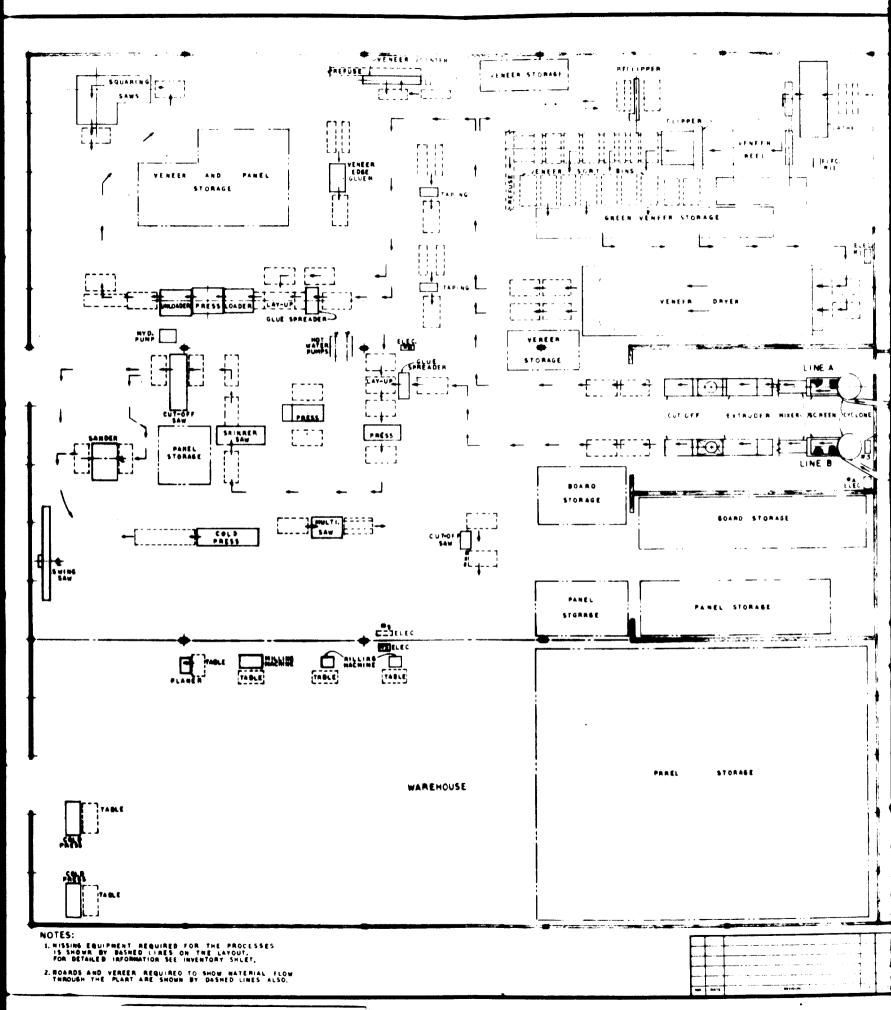
LINE AT BARAHONA

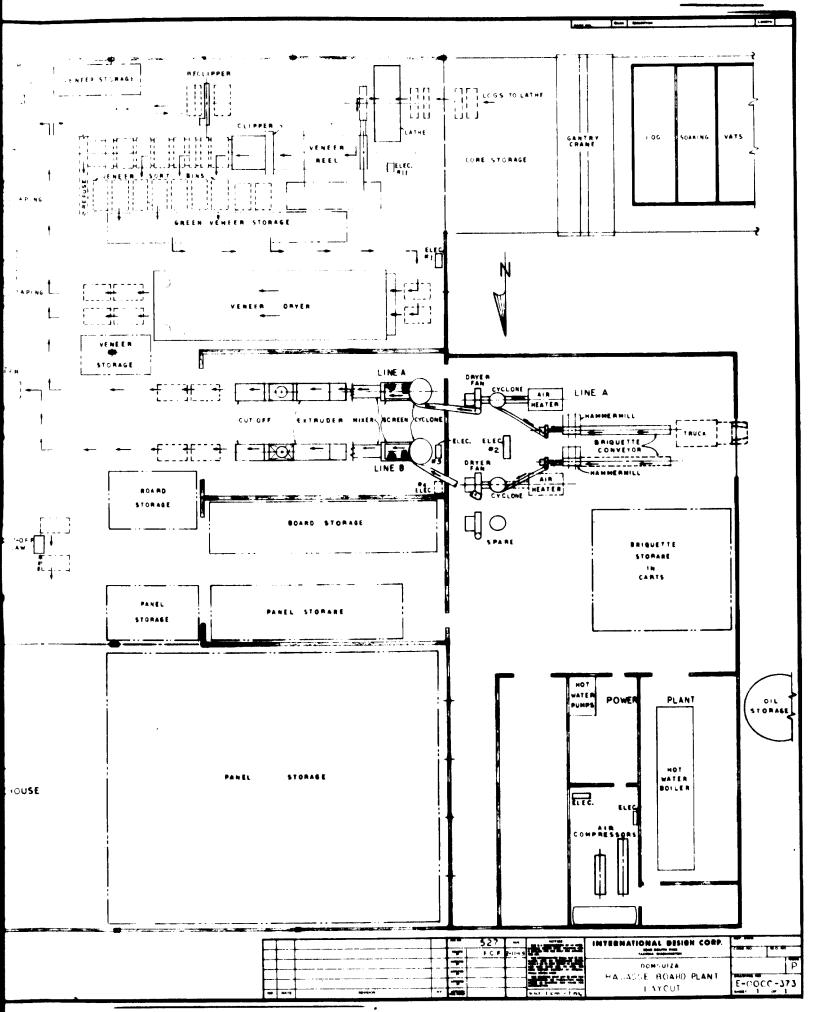


LINE AT OZAMA

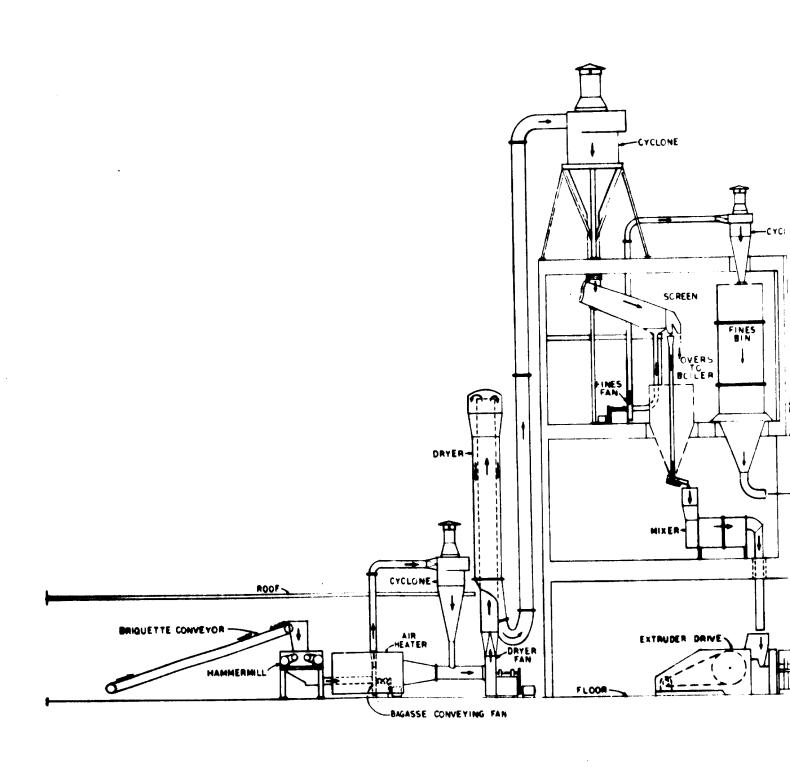
SECTION 2

					7 1 1		united 1	INTERNATIONAL DESIGN CORP.	L.A.L.S
					261		A. 100 1443	IM I B M M M I I O M M C D D D D D D D D D D D D D D D D D	100 M 10 M
					F.C.F.	2-12-69	A. W. C. C.	TAGÓMA. TRASHINOTON	1000
				7			* OF THE		P
				-			Tresca	SCHEMATIC LAYOUT OF	SHARRING THE
				7		<u> </u>		BRIQUETTING PLANTS	D-0000-376
100	DATE	REVIEW	97	4783		1	SCALE NONE		, , ,

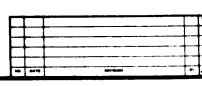


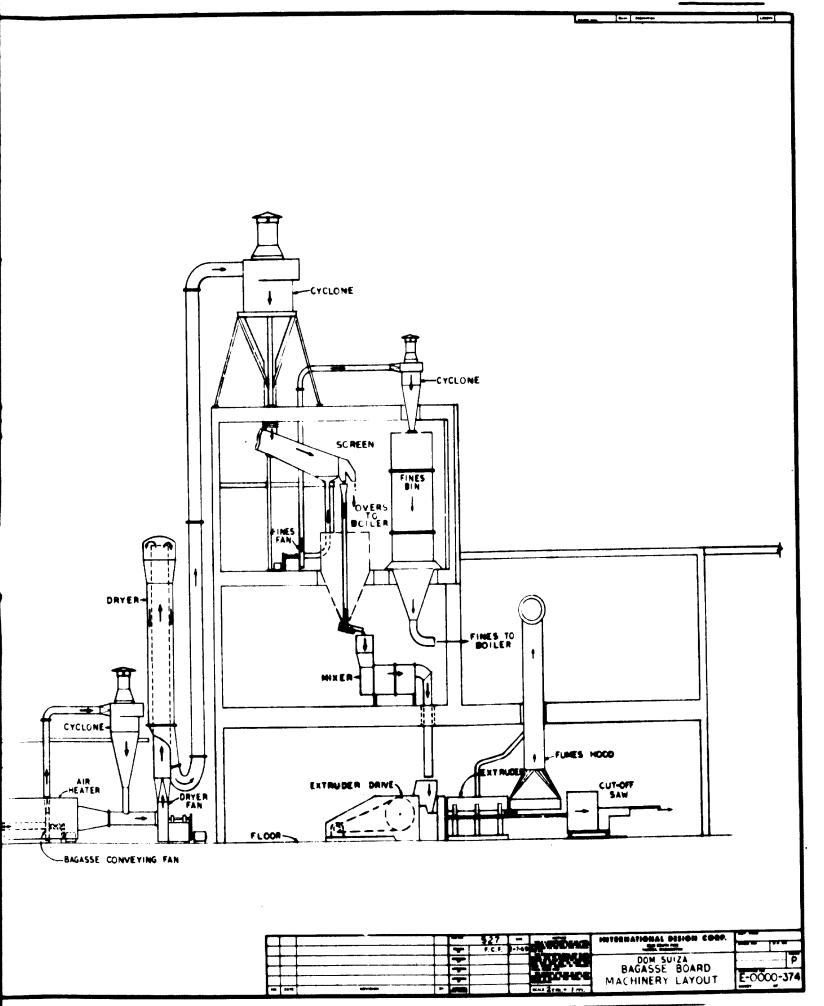


13 100 17 PANEL MANUFACTURING VENEE PROVISION FOR EXPANSION ADDITIONAL BRIQUETTE STORAGE FARRICATION AREA WAREHOUSE ROADWAY WAREHOUSE MAIN OFFICE SATE ROADWAY BRIQUETTE MACHINE SHOP STORAGE SECTION 1



SECTION 1





content is reduced. Briquettes from the sugar mill or the storage area are trucked to the head of the line and fed onto the briquette conveyor by hand. This conveyor feeds the hammermill which further reduces the bagasse in size and at the same time is supposed to transform the pith into very small fractions. The small pith fractions and the bagasse are conveyed by air through a fan to a cyclone. The air is then discharged from the top of the cyclone while the bagasse is discharged through the bottom into a pipeline of hot air. This air is heated by an oil burner, and blows the bagasse into a large fan. This fan discharges the hot air and bagasse mixture into a large vertical standpipe and then into another large cyclone. Again this sequence of steps acts as a flash drying process, reducing the moisture content from approximately 15 per cent (dry basis) to 3-4 per cent. The hot gasses and steam are discharged from the top of the cyclone while the bagasse and pith are discharged from beneath onto a double deck vibrating screener. The pith fraction (and a small amount of the bagasse fiber) is sifted through both screens and is conveyed by fan and air ducts to a cyclone and into the boiler fuel storage bin. Large particles, or overs, are discharged onto the floor from the top of the first screen and are subsequently discarded. Acceptable bagasse fiber is discharged from between the two screens, by means of a chute and is stored in a cone bottom storage bin. A vibrator under the cone storage bin conveys the bagasse to a batch feeder that rations it into a paddle mixer. Approximately 8 to 10 per cent by weight of urea resins is introduced here along with 1-1/2 to 2 per cent petroleum wax. This mixture or 'furnish' as it is called is fed to the extruder by means of a metering feeder.

The extruded bagasse board is produced by an oscillating ram, which forces the resin coated bagasse and resin mixture between two large parallel hot plates. For producing 3/4" board, these parallel hot plates are separated by a 3/4" space. The oscillating ram is also approximately 3/4" thick and about the same

APPENDIX

		Sheet Number
I	EQUIPMENT INVENTORY AND EVALUATION	
	Briquetting - Ozama	ı.
	Briquetting - Barahona	14
	Bagasse Particleboard Line A	26
	Bagasse Particleboard Line B	50
	Bagasse Particleboard Line C	71
	Veneer Line	80
	Veneered Bagasse Board and Plywood	96
	Moulded Products	118
	Plant Services	133
	Building Evaluation	155
	Miscellaneous Equipment Not Installed	161
11	FOUDMENT ODED ATING MANUALS	

- III NOTES TO THE BALANCE SHEET

width as the board and hot plates, i.e. 48". At each stroke of the ram a charge of bagasse and resin mixture is forced into the pressing compartment between the hot plates. The ram compresses it horizontally against the previous charge. Each stroke of the ramadvances the continuously formed 4' wide board through the hot plates by 1/4". An automatic flying saw cuts the board into 8' nominal lengths as it emerges from the hot plates.

The 4' x 8' bagasse board is thus formed by joining a series of compressed layers each 1/4" thick, 3/4" high and 48" across. Herein lies the reason the extrusion method never met with a great deal of success. The extruded board has lines of demarcation every 1/4" throughout its length, and for all practical purposes has little structural strength. With even the slightest stress in handling, the boards will break along these demarcation lines. As such, the panels have little potential sales value and before they can be marketed or even shipped, veneer must be added to both sides for strength. The description of veneering this board follows.

Veneered Bagasse Board: After being cut to lengths the 4' x 8' sheets of bagasse particleboard are transported by a lift truck to the press area. Here the bagasse particleboard is fed into a glue spreader which applies a film of phenol resin glue on both sides. As soon as it emerges from the glue spreader, a thin sheet of wood veneer is applied to each face of the bagasse particleboard core.

The glue is prepared by mixing its various ingredients and pumping it through metering valves to the glue spreader.

The assembly of "face and back veneers on the two glued surfaces of the bagasse particleboard core" is called a layup. Eight layups are stacked together for charging one hot press load (eight openings).

The layups are cured in the hot press at a temperature of approximately 300 degrees F and the cured product

is called veneered bagasse board. After being removed from the press, the veneered bagasse board is allowed to cool before the rough edges are squared off in the skinner and trim saws. If a defect shows up, these may be repaired at this stage by means of sliver patches. The panel is now fed into a drum sander to give it a smooth surface. This sander is of the flat bed type and sands only one side at a time. Therefore, each panel must be fed through the sander twice. After sanding the panels are warehoused and eventually shipped or remanufactured.

Veneer and Plywood: The Flow Diagram starting in the upper right hand corner illustrates the veneering system. If this section of the plant is operated it will be necessary to import logs and they will have to be trucked from the dock to the Domsuiza plant. They should be stored in the crane area of the plant. However, additional space will also be needed. Since no debarking machine has been purchased or installed it is assumed that the intent was to do needed debarking by hand. Debarking equipment would be more satisfactory.

Log vats have been installed to steam or soak the logs in very hot water prior to the lathe operation. The logs are then hoisted from the vats by the gantry crane and placed in front of the lathe. A lathe charger or hoist should be installed to charge the lathe with the logs. The lathe is set up to turn a 3-1/2' diameter log over eight feet in length. After the log is on the lathe and as it turns, the lathe knives peel off a thin sheet of veneer, which is rolled onto reels. This section of the plant is designed for two reeling systems, side by side, however, only one system has been installed. At the end of the reeling section a clipper is used for clipping the veneer into desired widths.

As the veneer is conveyed from the clipper on the green chain belt it is graded manually. The various grades are temporarily stored and subsequently fed by hand into the veneer dryer. The dryer is a double deck jet type dryer approximately 60' long. When the veneer

emerges from the dryer it is checked for proper moisture content and then regraded. Sheets that are less than four feet wide are squared up on the veneer jointer and then edge glued or taped into four foot widths. If the veneer is going to be marketed directly no further processing (except banding) is required. A description of the veneering process used to add the face and back over a core board is included in the preceding section -Veneered Bagasse Board. The section of the plant where the bagasse particleboard cores are veneered would also be used for the glue spreading, layup, pressing, trimming, and sanding operations required to produce plywood. Instead of using a single thick core with two face veneers such as with veneered bagasse board, plywood requires three center sheets of veneer (a core and two cross bands) and two face veneers. This requires a total of five plys with four glue lines for a finished thickness of 3/4". Sometimes a panel of this thickness is built up of seven plys of thinner veneer requiring six glue lines.

Any remanufacturing to be done would be performed on power saws, routers, and jointers - all of which would be operated by hand.

Equipment Testing

The testing and inspection of existing equipment was carried out in the following manner:

Practically all equipment shafts were rotated by hand (a large pipe wrench was used where necessary) and an evaluation was made of the bearings, seals, etc.

All cover plates were opened and inside inspections made of all machinery.

Per cent of "rust through" was checked by the punch and hammer method.

Motors, starters, electrical leads, etc. were megged for checking "resistance to ground".



MAIN PRODUCTION FLOOR
PISO DE PRODUCCION PRINCIPAL

Wherever possible, all equipment was inspected from both inside and out.

It was neither safe nor practical to start up the equipment at this time for the following reasons:

Since the equipment has been idle for many years, it is not practical or in many instances possible, to start up the motors and machinery until the bearings have been washed with solvent and lubricated.

Many of the lead wires to the panels and to the motors were lying in water. Some leads showed low resistance to ground after a heavy rain.

The substation transformer shows battle damage from machine gun or rifle fire. Even though the damage has been partially repaired, it does not appear advisable to energize the transformer until more thorough repairs have been made.

The motors have been subjected to rain and dampness due to the leaky roof. Moisture or fungus may have damaged the insulation. Even though the majority of motor widings were found to be of the proper resistance to ground, it was thought best to bake the motors before starting, as a precaution against possible damage.

It was judged impractical to start the motors because most fuses were missing in the substation panel, and some missing in the distribution panels. Some of the motor starters were missing or in bad condition, and not connected to the operator's panel.

Production Problems Anticipated

Thorough engineering review of the process design and of all installed equipment indicates that the following production problems are to be expected:

One vibrating screen per line is not sufficient to separate pith from usable fiber. Bagasse will not feed properly from cone storage above the mixers.

The mechanism for feeding bagasse to the mixers is not adequate for proper quality control of the product.

The control system for the dryers does not provide for variable combustion air flow rates.

The plant has not been dustproofed, especially in the screen and mixing area.

Adequate under-roof storage area to handle a six months' supply of dry bagasse has not been constructed. The storage area now being used is adequate for about a four month's supply.

The mixing area does not have adequate facilities for flushing and cleaning resin out of the equipment.

The plywood hot presses and the bagasse board extruder presses have relatively thin hot plates with small circulation passages for use of steam. The plant is provided with a hot water heating system which requires larger passage ways. Hot water will not heat the presses properly with the existing small passages.

Most of the machinery is equipped with outdated flat belt and pulley drives. These will be troublesome and unreliable. They are prone to slip when overloaded slightly.

Since the sugar mills operate on the average only six months of the year, it will be necessary for the two briquetting operations (Ozama and Barahona) to produce a total of 96 tons per day of briquettes. According to the reported rate of briquetting, and experience with this type of machinery at other locations, the required production will not be obtainable with present equipment.



OIL BURNER FOR FLASH DRYER
SHOWING DETERIORATION

QUEMADOR DE ACEITE PARA DESECADO
INSTANTANEO DEMOSTRANDO DETERIORO

Inventory Evaluation

In compliance with contract requirements, a complete inventory and evaluation of Domsuiza equipment, machinery and buildings has been prepared. The inventory was made by registered professional engineers who are leading specialists in particleboard plywood and hardboard production technology.

In addition to important technical information the inventory includes a description of present physical condition and an estimate of "residual value" for each item. We have also enumerated missing parts and associated restoration costs.

In Appendix I is an "Inventory and Evaluation Sheet" for each piece of equipment, building, and other facilities, related to the Domsuiza operation. These sheets are tabulated by sections, as follows:

Equipment:

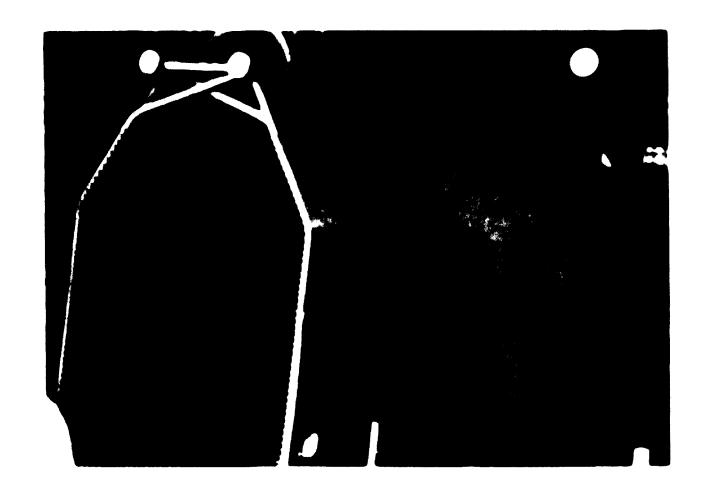
Briquetting - Ozama
Briquetting - Barahona
Bagasse Particleboard Line A
Bagasse Particleboard Line B
Bagasse Particleboard Line C
Veneer Line
Veneered Bagasse Board and Plywood
Moulded Products
Plant Services

Buildings:

Boiler House and Air Compressor Building Fiber Preparation Building (Plant #2) Main Production Building (Plants #3, 4, 5, 6) "Almacen" (Warehouse) "Taller" (Workshop) Roads, Sidewalks, Fencing

Missing Equipment: In addition to equipment on hand requiring restoration, equipment listed in the following table must be purchased for the facilities. As is readily seen, buying this missing equipment will require a significant capital outlay:

Dump trucks for transporting bagasse from storage	
to hammermill feeding area (2 required)	RD\$ 10,400
Front end loader	14,900
Magnetic pulleys for removing tramp metal at head	
of hammermill feed conveyor (2 required)	2,500
Additional bagasse drying air controls	2,500
Lighting for the facilities (2/3 total area)	31,000
Elevator - seven ton capacity (elevator shaft exists)	31,000
Log truck for transporting logs from dock to Domsuiss	7,800
Briquetting plant - one additional required	180,000
Dust and sawdust collecting system for main plant	
(cutoff saws, veneer jointer, sander, etc.)	11,500
Refuse conveyors (for veneer lathes, trim saws,	
etc.) to waste hog	9,500
Hog for grinding refuse for boiler fuel	3, 300
Miscellaneous conveyors and feed table for most of	
the plywood equipment (see plant layout and	
inventory list)	22,500
Fire extinguishing equipment	11,600
Maintenance shop	33,000
Screener for Line B	8,500
Miscellaneous starters, wiring, and main feed lines	
including panels (#4, 72, 73, 74)	40,000
Capacitors for power factor correction	3,400
Lathe charger hoist and crane rail	4, 200
Compressed air headers throughout plant -	
125 psi lines	3,000
75 psi lines	1,500
Circulating hot water headers (insulated in both	
directions of flow)	5,000
Motors	7,800
Insulation for hot water distributors, pipes, bagasse	
dryers, and dryer combustion chambers	8,200
Push trucks for veneer section and warehouse area	4,500
Office equipment	3,900
Company vehicle (pickup)	6,200
Blacktop for portion of roadways at plant site	11,700
Fork lift	11,600
Spare parts	20,000
Miscellaneous laboratory and quality control equipme	nt* 25,000
Barker for logs (hand-jig to be used)	2,000
Contingencies	25,000
Total Missing Equipment	RD\$563,000



PARTIALLY INSTALLED EQUIPMENT-BOILER

EQUIPO PARCIALMENTE INSTALADO-CALENTADOR

₹.,

INTRODUCTION

This study concerns the Dominico-Suiza bagasse building board factory in Santo Domingo, Dominican Republic. Hereafter this plant will be referred to by its locally accepted name - Domsuiza.

The purpose of the study was to determine the technical and economic feasibility of rehabilitating the Domsuiza plant. The study was conducted by Sanderson & Porter, Inc. in accordance with United Nations Contract No. CON 76/78.

The Contractors

Founded in 1896, Sanderson & Porter is one of the oldest international engineering and consulting firms in the United States. For the last decade, the firm has conducted agricultural, economic and industrial feasibility studies in the underdeveloped areas of the world. Sanderson & Porter has had considerable experience with bagasse utilization studies, and plywood, veneer, and lumber assignments. The firm is active throughout the world, including Latin America, and has a wholly owned engineering subsidiary in Brazil known as SELTEC.

For the Domsuiza project, Sanderson & Porter engaged the International Design Corporation for certain technical aspects of the assignment. The International Design Corporation was established in 1951 and has specialized since then in engineering studies of wallboard, hardboard and particleboard plants which use a wide variety of raw materials. The firm maintains its own laboratory and pilot operations allowing it to manufacture and test panelboard samples and to evaluate resins. International Design Corporation's experience with bagasse board facilities is unequaled. The firm has engineered plants or conducted studies concerning bagasse-board processing in India, Hawaii, Trinidad, Venezuela and Barbados. They are also experienced in veneger and plywood plant engineering.

Freight, packing, insurance, etc.	30,000
Engineering and installation	80,000
Total Cost Installed Domanica	RD\$673.000

One item of laboratory equipment is stored at the Swiss Precision Machinery Corporation at Bayamon, Puerto Rico. It is used for making accelerated aging tests on panel product samples. This machine was diverted to Puerto Rico after it was shipped from Germany.

Summary Evaluation

The information contained in Appendix I is capsulized here as an estimate of the current value of the buildings and equipment inventory. We have also estimated the expenditures necessary to restore, replace, or purchase whatever equipment is required to bring the plant to operation:

	Residual Value RD\$	Restoration Cost Plus Missing Equipment RD\$	Total RD\$
Bagasse Particleboard:	·		
Buildings	51,000	98, 4 00	149,400
Equipment	174,800	509,800	6 84 ,600
Sub-Total	225,800	608, 200	
Veneer (from logs):			
Buildings	12,750	24,600	37, 400
Equipment	<u>50,650</u>	139,000	189,600
Sub-Total	63, 400	<u>163, 600</u>	
Layup Section (for plywood or a	dding veneer):		
Buildings	21,250	41,000	62, 200
Equipment	24,050	<u>205, 700</u>	229,800
Sub-Total	45, 300	<u>246, 700</u>	
Total All Buildings	85,000	164,000	249,000
Total All Equipment	249, 500	854, 500	1,104,000
Grand Total Buildings and			
Equipment	334, 500	1,018,500	1,353,000

INDUSTRIAL DOMINICO SUIZA C. por A. Exhibit 12 BALANCE SHEET December 31, 1967

ASSETS

Current Assets	
Cash	RD\$ 50.00
Documents and Accounts Receivable	42,741.99
Inventories	34.168.70
Total Current Assets	76.960.69
Fixed Assets Appendix III - Note 1	3, 196, 586, 67
Improvements and Work in Process (Machinery)	3,190,200,07
Improvements and Work in Process (Buildings)	
Less Planned Work in Explosion Indemnifica-	595, 789, 47
tion 11/7/64 - PI\$47,049,25	13,141.81
Miscellaneous Fixed Assets	3, 805, 517, 95
Total Fixed Assets	3,003,311172
Deferred Charges - Note 2	665,833.43
Other Assets	505,00
TOTAL ASSETS	RD\$4,548.817.07
LIABILITIES AND STOCKHOLDER EQUITY	
Current Liabilities	
Accounts Payable (Misplaced Documents)	147. 994. 31
Accounts Payable to Suppliers - Note 3	47, 249, 95
Accumulated Interest - Note 4	227, 448. 23
Corporacion de Fomento Industrial	123.752.60
Corporacion Dominicana de Empresas i statales	35, 636. 47
Banco de Reserva de la Rep. D - Note 5	76, 647, 34
Accrued taxes and expenses	33.14
Total Current Liabilities	658.961.0
Deferred Credits	
Advances Received - Note 6	218 948 47
Others	7. 426.02
Total Deferred Credits	226.374.49
Fixed Liabilities	
Estado Dominicano - Note 7	350 ,000. 0 0
Swiss Metallurgical Corp Note 8	1,887,980.56
Total Fixed Liabilities	2, 237, 980. 56
Stockholders Equity - Note 9	
Preferred Stock	3 00 ,000 00
Common Stock	1,125,000 00
Stockholders Equity	1,425,500.00
TOTAL MABILITIES AND STOCKHOLDERS EQUITY	1 54.548, (17.07

F CONOMICS

This section explores the various financial and cost considerations underlying the feasibility of rehabilitating Domsuiza. It includes:

Analysis of the present financial position.

Estimation of additional capital requirements.

Projection of operating costs and sales prices.

Cost/benefit analysis.

Financial Position

Analysis of Domsuiza's financial position indicates a condition of insolvency.

The most recent balance sheet dated December 31, 1967 (Exhibit D) showed current assets of only RD\$76, 961 compared to current liabilities of RD\$658, 962. This leaves a working capital deficit of RD\$582, 001. Current assets consist of RD\$50 in cash, RD\$42, 742 in bills, notes, and accounts receivable, and RD\$34, 169 in inventories. Since no allowance has been made for uncollectable accounts receivable the current assets figure is questionable. Also, the inventory value includes RD\$24, 216 of raw bagasse that is not readily marketable.

Fixed assets (buildings and equipment) are grossly overstated as related to their current value. The buildings and equipment were installed in 1960 and 1961. As is to be expected, significant deterioration has taken place, but this fact has not been reflected on the books. Also, Domsuiza was never fully completed nor operated as a going concern; no revenues were generated. As a result depreciation of buildings and equipment was not expensed and the fixed asset accounts still reflect the original cost of the assets.

To determine the current actual value of Domsuiza's fixed assets the detailed Equipment Inventory and Evaluation included in the preceding section was undertaken. Each building and each piece of equipment was carefully examined and evaluated by technical personnel who are skilled in the design, engineering, and construction of bagasse and wood fiber particleboard plants. The assessment of the present worth of fixed ssets was based on the assumption that the plant would be rehabilitated and operated. It should not be confused with the salvage value of the equipment. By definition, this value to Domsuiza throughout the report is called "residual value". Residual value for the Domsuiza equipment is RD\$249,500. Significantly, book value for this equipment is RD\$3,196,587. The residual value of the buildings is RD\$85,000. Book value is RD\$595,789.

For purposes of analysis we have restated assets to reflect the residual values of equipment and buildings:

Current Assets	RD\$ 76,961
Equipment	249,500
Buildings	85,000
Other Assets	505

RD\$ 411,966

Deferred charges have not been included in this restatement of assets. An analysis of this account showed that it has little current value for purposes of settling creditors' accounts.

Creditors' claims totaled RD\$2,123,317. These consisted of current liabilities of RD\$658,962; advances received and other deferred credits of RD\$226,374; and fixed liabilities in the form of mortgages payable and contractual agreements of RD\$2,237,981. Creditors' claims thus exceed assets as restated above by RD\$2,711,351. Obviously, Domsuiza could not start operations with the presently held assets and hope to retire the outstanding liabilities.

Complicating the analysis is the existing legal dispute between Swiss Precision Manufacturing and the Dominican Republic. Swiss Precision Manufacturing claims a substantial sum due as payment



ROOF DAMAGE
TECHO DETERIORADO

for equipment delivered under the original contractual agreements. Investigations in Germany, Switzerland, Puerto Rico, and the Dominican Republic showed that the full line of equipment was not delivered; that some of it was diverted to Puerto Rico and that some of it was sold in Germany. The value of the undelivered equipment has not been determined.

If the decision were made to proceed with restoring and operating this venture, a settlement would have to be arranged with creditors to reduce these legal liabilities. One alternative would be to reorganize the present company by writing down the assets and liabilities and issuing the creditors an amount of equity capital in Domsuiza fractionally proportionate to the amount that Domsuiza owes each creditor. A second alternative would be to declare bankruptcy and form a new company, which would then buy the Domsuiza assets. Income realized from the sale of assets would be applied against creditors' claims. This would allow the new company a fresh start free from the poor credit reputation which would necessarily accompany the first alternative.

Because of the negative findings regarding projected profitability which are developed in other sections of this study, and the overall recommendation not to restore the venture, the most advisable alternative would be to liquidate the assets and apply the proceeds against liabilities.

Capital Requirements

Expenditures necessary for physical rehabilitation of the present plant and equipment were presented in Equipment Inventory and Evaluation. New equipment needed was also itemized. These capital outlays require new financing:

Restoration of Buildings	RD\$	164,000
Restoration of Equipment		181,500
Purchase and Installation of		
Missing Equipment		673,000

RD\$1,018,500

Beyond this, adequate working capital must be provided to assure sufficient funding for ongoing operations. A number of factors

were considered in developing the working capital requirements for Domauiza:

Startup problems traditionally accompany the beginning of manufacturing operations in a large plant of this type. Miscellaneous defects appear in equipment not only snarling production but also incurring unexpected expenses. Several months are normally required before substantial cash inflows may be expected.

Productivity of workers is expected to be low for a number of months after startup while the men are learning their new tasks. Both time and money will be required during this period to provide thorough "on the job" training of workers and supervisors.

Inventories of raw materials and finished products require financing. A plant of this type requires the stocking of a large supply of raw materials as well as the warehousing of the finished product. Logs, resin, and wax must be purchased in large quantities in order to qualify for quantity discounts. Moreover, the sugar mills operate only six months of the year and it is necessary for Domsuiza to purchase double quantities of bagasse during the months bagasse is available. The surplus would be stored and used for board production during the season when the sugar mills are closed down.

Delay is to be expected in the collection of accounts receivable. Collections are expected to leg behind shipments by as much as 30 to 60 days. A common practice in the industry to provide funds during this delay is to bank the accounts receivable invoices, using the invoices as collateral to borrow necessary working capital.

Based upon the above and drawing upon prior experience with similar operations, working capital requirements for each of the three production lines at full capacity were developed:

	Working		
Product	Capital Required		
Veneered Bagasse Board	RD\$524,000		
Plywood	751,000		
Veneer	390,,000		

Full details underlying these working capital requirements are included in the following section which develops operating costs and selling prices.

Projected Operating Costs and Selling Prices

The production costs and the estimated sales prices for the various Domsuiza products are developed in the following pages. A number of the assumptions underlying these estimates warrant discussion.

In today's U. S. particleboard industry, ventures comparable to Domsuiza cannot attract investment capital without projecting approximately 25 per cent profits on sales before taxes. Because of social and political considerations investors might be persuaded to consider a somewhat lower rate in Domsuiza's case. We have used a figure of 18 per cent in developing sales prices.

Concerning the amortization of the RD\$3,123,317 that Domsuiza presently owes to creditors, a settlement must be made with creditors. This amount must be written off the Domsuiza books. The cost analysis assumes that Domsuiza would not be burdened with this debt load.

Operations such as Domsuiza are most efficient when the plant is running at full capacity. Operating expenses therefore are not directly proportional to the level of production: rather they are proportionally higher at the lower production levels.

Veneering the bagasse particleboard raised a particular problem: it was not originally known whether it would be cheaper to import veneer, or to import logs and produce the veneer at Domsuiza. A comparative cost analysis was undertaken which indicated that the most attractive alternative would be to import logs and produce the veneer at Domsuiza.

In the following cost analysis the equipment has been depreciated using the straight line method over ten years, and the buildings have been depreciated over 20 years. The financing for renovation and working capital has been assumed to carry a 7 per cent interest charge.

Exhibits E, F, and G and the associated Schedules detail production costs and estimated sales prices for the various Domsuisa products.

DOMSUIZA Veneered Bagasse Board Computation of Operating Cost and Estimated Sales Price

Plant Capacity = 7500 metric tons annually = 9500 M sq. ft. (3/4" basis)

**		One	rating Level
Raw Materials - Schedule 1	1500 m.t.	2500 m. t.	5000 m.
Bagasse	RD\$ 36,000	RD\$ 60,000	RD\$ 120,0
Resin	65,100	108,500	217 , (.
Hardener	5,050	8,417	16, 8
Wax	6, 300	10,500	21,0
Pentachlorophenol	12,600	21,000	42,0
Logs	45,600	76,000	152,
Glue	15,200	25,333	50,
Subtotal	185,850	309, 750	619,
Operating Expenses - (a)			
Direct Labor - bagasse board - Schedule 2	62 ,280	103,800	207 , c
Direct Labor - veneer - Schedule 3	11,940	19,900	39, 8
Direct Labor - overlaying veneer - Schedule 4	20,460	34,100	68 , 4
Supplies - Schedule 5	25,500	42,500	85, 0
Contingencies and miscellaneous expenses	19,500	32,500	65,0
Subtotal	139,680	232,800	465,
Utilities and Fuel			
Power - Schedule 6	14,206	23, 674	47,
Fuel - Schedule 7	849	1,416	2,8
Subtotal Fixed Overhead Expense	15,055	25,090	50, i
Indirect Labor - Schedule 8	19,750	19,750	19,7
Fire and Liability Insurance - Schedule 10	21,660	21,660	21, e
Depreciation Equipment - Schedule 9	92,400	92,400	92,4
Depreciation Buildings - Schedule 9	12,450	12,450	12,4
Subtotal	146, 260	146, 260	146, 4
Operating Cost Total	486,845	713, 900	1,281,
General Overhead Expense			
Administrative Expense - Schedule 8	23,500	23,500	23, ~
Sales Expense at 5% of Sales	37,510	52, 62 9	90,4
Interest Expense - Schedule 10	67,315	73,079	87,
Subtotal	128,325	149,208	201, 4
Total Cost	615,170	863,108	1,482,
Units (1000 sq.ft.)	1,900	3, 166	6,
Cost per 1000 sq. ft.	324	273	ί,
Sales @ 18% profit before taxes	75^,208	1,052,570	1,808,5
Sales price per 1000 sq. ft.	395	332	, , 2

Project Staff

Project Officers:

S. S. Mleczko
Dale L. Schubert
R. E. Steere

Officer-in-Charge Project Director Economist

Technical Personnel:

Donald A. Sangesand
Stanley Matejka
Freeman C. Felt
Lee Gilles
C. George Evans
Patrick Bernuth
Kenneth Skoog

Civil Engineer
Mechanical Engineer
Electrical Engineer
Industrial Engineer
Marketing Specialist
Editor
Coordinator

Contractor's Approach

While paying closest attention to the economic and technical considerations of the assignment, the consulting team has carefully maintained its sensitivity to the human aspects of the project, and the need in the Dominican Republic for manufacturing operations - especially those associated with the nation's housing effort. The necessity to employ people, to train people, and to develop the basis of a national manufacturing complex were fully understood.

Notwithstanding, a review of this report will show that it is not feasible to rehabilitate Domsuiza. Because of this conclusion, a considerable effort was expended in trying to develop alternate uses for the plant and equipment. Despite the search for a creative program, no alternative proved practical when evaluated in the light of business and technical realities. To approve a project which will not be viable in the competitive arena of the world's economics is both unprofessional and damaging to a nation's economy. This wastes the host countries already limited resources where they may be better devoted to industries which are in fact productive.

DOMSUIZA Veneered Bagasse Board Computation of Operating Cost and Estimated Sales Price

s annually ./4" basis)

	Operating Level				
	1500 m.t.	2500 m.t.	5000 m, t.	7500 m.t.	
	RD\$ 36,000	RD\$ 60,000	RD\$ 120,000	RD\$ 180,000	
	65, 100	108,500	217,001	325,500	
	5,050	8,417	16,833	25,250	
	6,300	10,500	21,000	31,500	
	12,600 45 ,600	21,000 76,000	42,000 152,001	63,000 228, 000	
	15,200	25, 333	50,666	76,000	
	185,850	309,750	619, 501	929,250	
gahadula 2	43 300	103 800	207 400	250 500	
- Schedule 2	62,280 11,940	103,800	207, 600 39, 800	259,500	
hule 3 Her - Schedule 4	20,460	19,900 3 4 ,100	68,200	49,750 85, 25 0	
er - Schedule 4	25, 500	42,500	85,000	106,250	
hus expenses	19,500	32,500	65,000	97,500	
de expenses	139, 680	232,800	465,600	598, 250	
	• • • • •				
	14,206	23,674	47,352	71,028	
	849	1,416	2,833	4,250	
	15,055	25,090	50,185	75,278	
	19,750	19,750	19,750	19,750	
Schedule 10	21,660	21,660	21,660	27,060	
edule 9	92,400	92,400	92,400	110,400	
aule 9	12,450	12,450	12,450	12,450	
	146,260	146,260	146, 260	169,660	
	486,845	713,900	1,281,546	1,772,438	
edule 8	23,500	23,500	23, 500	23,500	
	37,510	52,629	90,426	124,057	
û	67,315	73,079	87,519	114,540	
	128, 325	149,208	201,445	262,097	
	615,170	863,108	1,482,991	2,034,535	
	1,900	3, 166	6,333	9,500	
	324	273	234	214	
	7 - ^ , 208	1,052,570	1,808,526	2,481,140	
	395	332	286	261	

Exhibit E
Veneered Bagasse Board:
Projected Costs and Sales
Price

DOMSUIZA Schedule of Raw Materials To Produce Veneered Bagasse Board

Production Rate

All schedules are calculated at full production capacity.

Annual capacity (tonnage) = 7500 metric tons

Daily capacity (tonnage) = 30 metric tons

Annual capacity (sq.ft., 3/4" basis) = 9500 M sq. ft.

Daily capacity (sq.ft., 3/4" basis) = 38 M sq. ft.

Bagasse (dry weight basis)

Annual Cost RD\$

Quantity required each day of raw bagasse (including pith) for hammermill (dry weight basis)

$$= \underbrace{(30)}_{1} \underbrace{(51)}_{(48)} \underbrace{(99)}_{(96)} \underbrace{(1)}_{(1.14)} \underbrace{(1)}_{(0.95)} \underbrace{(1)}_{(0.60)} \underbrace{(1)}_{(1.06)}$$

$$(*) (**) (***) (****) (*****) (******)$$

* mill out put
** trim waste
*** resin wax, hardener and Penta
**** miscellaneous loss
***** pith loss
****** moisture

= 48.0 metric tons

Unit price = RD\$15/ton dry basis FOB Domsuiza

Cost of bagasse = (15) (48.0) = RD\$720/day RI

RD\$180,000

Annual Cost

Quantity of bagasse fiber into mixer (dry weight basis)

$$= \underbrace{(30)}_{1} \underbrace{(51)}_{(48)} \underbrace{(99)}_{(96)} \underbrace{(1)}_{(1.14)} \underbrace{(1)}_{(0.95)} \underbrace{(1)}_{(1.06)} \underbrace{(2200)}_{(1.06)}$$

$$(*) (**) (***) (****) (*****)$$

* mill out put

** trim waste

*** resin, wax, hardener, and Penta

*** miscellaneous loss

**** moisture

= 63,000 lbs.

Resin

As a percentage of bagasse fiber = 10% Quantity = (.10) (63,000 lb) = 6300 lb Unit Price = RD\$.125/lb.dry basis @ 60% Solids FOB Domsuiza

Cost =
$$(.125)$$
 (6300) = RD\$1302/day

RD\$325,500

Hardener

As a percentage of bagasse = 1%

Quantity = (.01) (63,000) = 630 lb.

Unit Price = RD\$0.16/lb. FOB Domsuiza

$$Cost = (.16)(630) = RD$101/day$$

RD\$ 25,250

Wax

As a percentage of bagasse = 2% Quantity = (.02) (63,000) = 1260 lbs. Unit Price = RD\$.10/lb., FOB Domsuiza

$$Cost = (.10) (1260) = RD$126/day$$

RD\$ 31,500

Annual Cost

Pentachlorophenol

As a percentage of bagasse = 1%Quantity = (.01) (63,000) = 360 lb. Unit Price = RD\$.40/lb. FOB Domsuiza

Cost = (.40) (630) = RD\$252/day

RD\$ 63,000

Logs • for veneering

Quantity of veneer (1/20") from M bd.ft.
of logs at 50% yield = 10 M sq. ft.
Price of logs per M bd. ft. Doyle scale
FOB Dominican Republic = RD\$120/
M bd.ft.

Cost of logs to veneer 38 M sq. ft. two sides

$$=\frac{38 \times 2 \times 120}{10} = RD$912/day$$

RD\$228,000

Glue - for veneering

Area for gluing, 38 M on two sides = 76 M sq. ft.

Price = \$4 per M sq. ft.

 $Cost = 4 \times 76 = RD\$304/day$

RD\$ 76,000

DOMSUIZA
Schedule of Direct Labor Expenses
for Producing Bagasse Board *

Position	Men Per Shift	Shifts	Men Per Day	Rate Per Day	Cost Pe	-
Truck Drivers	2	3	6	RD\$ 7	RD\$	42
Hammermill and						
Dryer Operator	1	3	3	8		24
Raw Bagasse Handlers	. 8	3	24	4		96
Screening Area Worker	1	3	3	8		24
Mixing Machine Op-						
erators	2	3	6	8		48
Resin Preparation						
Operators	2	3	6	8		48
Extruder Press Op-						
erators	2	3	6	12		72
Cutoff Saw Operator	_					
and Stackers	4	3	12	8		96
Utility and Relief Man	1	3	3	10		30
Mechanic	1	3	3	16		48
Mechanic's Helper	1	3	3	11		3 3
Electrician	1	3	3	18		54
Guards	2	3	6	6		36
Janitors	2	3	6	4		24
Foreman	1	3	3	19		57
Inspection and Quality						
Control Men	1	3	3	15		45
Warehousemen	2	2	4	8		3 2
Lift Truck Driver	1	3	3	7		21
Sub-Total			103		RD\$	330
Fringe be	nefits, vac	cations,	etc. @ 25	or _c		208
Total dire	ect labor/d	lay			RD\$1	,038
Annual Co	st				RD\$259,	500

* Labor used 5 months per year at sugar mills for briquetting is included in the price of bagasse.

** Labor rates have increased steadily over the last decade. Recruitment problems are not expected for unskilled and semi-skilled labor since unemployment is estimated at 20%. For proper staffing a technician specializing in plywood and particle board would be required.

DOMSUIZA
Schedule of Direct Labor Expenses
For Producing Veneer

Position	Men Per Shift	Shifts	Men Per <u>Day</u>	Rate Per Day	Cost Per Day RD\$
Log Loaders and Un-				224	PD# 14
loaders	4	1	4	RD\$ 4	RD\$ 16
Vat Laborers	4	1	4	4	16
Log Crane Operator	1	1	1	8	8
Truck Driver (dock					_
to plant)	1	1	1	7	7
Lathe Chargers	2	1	2	8	16
Lathe Operator	1	1	1	10	10
Reel Operators	2	1	2	8	16
Green Sorting Workers	3	1	3	7	21
Drier Feeders	3	1	3	5	15
Drier Unloaders	3	1	3	5	15
Foreman	1	1	1	19	19
Sub-Total			25		RD\$159
Fringe bene	e fits, vac a	tions,	etc. @ 25%		10
Total direc	t labor/da	y			RD\$199
Annual Cos	t				RD\$49, 750

DOMSUIZA
Schedule of Direct Labor Expenses
For Overlaying Bagasse Board with Veneer

Position	Men Per Shift	Shifts	Men Per Day	Rate Per Day	Cost Per Day RD\$
Veneer Jointing Operators	4	1	4	RD\$ 8	RD\$ 32
Veneer Storage Laborers	4	1	4	4	16
Veneer Edge Gluing and Taping Workers	4	1	4	8	3.2 7
Truck Driver Lift Truck Operators	2	1	2	8 8	16 32
Lay Up Operators Press Operators	4 2 3	1	2 3	8 5	16 15
Trim Saw Operators Warehousemen	4 1	1	4	5 4	20 4
Cleanup Man Sanding Machine Operators	4	2	8	8	64
Foreman	1	1	1	19	19
Sub - Total			38		RD\$2.73
Fringe bene	fits, vaca	tions, e	tc. @ 25%		68
Total direct	labor/day	<i>i</i>			RD\$341
Annual Cost	t .				RD\$85, 250

DOMSUIZA Supplies for Production of Veneered Bagasse Board

Experience with similar facilities indicates that production supplies will include the following:

Bagasse Board Line

Hammermill knives

Screens.

Saw blades

Welding rod, steel and

bottled gas

Bearings

Grease and oil

Belts

Tool replacements

Equipment spares

Miscellaneous

Cost

RD\$300 per day

Veneer and Glue Line

Oil

Grease

Lathe knives

Saw blades

Bearings and belts

Miscellaneous

Cost

RD\$125 per day

Total (both lines)

RD\$425 per day

Annual Cost

RD\$106, 250

DOMSUIZA Schedule of two c. He quirements for Production of Veneered Bagasse Board

Power Requirements

Annual Cost	RD\$71.
Total Monthly Cost	RD\$5939
Monthly combustible oil cost charge for # 362,800 kwh (based on oil cost of RD\$0.040)	212
	3815
Monthly demand charge for 1015 kva	PD\$1852
Refer to tarift Nos. 1-4 and C-4 of General Regulations (Reglamento General) Corporation Dominican a de Electricidad pages 21 and 22.	$\mathbb{R}^{(N)}$
Energy Used Per Month 720 km x 24 hour x 21 working days/mm. = 362,800 Energy Cost	kwh/mo.
Total Plant Demand Total Plant Average 1 5 ad	1015 kv - 720 (v
Plant Services including lighting Demand: 430 kw x 0.99 demand factor + 9.90 p.f. = Load: 430 kw x 0.70 load factor	43 1 kx 4 30 1 kx 4
Veneer - Plywood - Miscellaneous Demand: 315 kw x 0,50 demand factor + 0,90 p.f. Load: 315 kw x 0,32 load factor	175 kva Too ku
Bagasse Board Production Demand: 460 kw x 0,80 demand factor ± 0,90 p.f Load: 460 kw x 0,70 load factor	410 kva 320 kw

^{*} Power for the entire plant is calculated here and propertioned for the various sections of the plant.

Organization

This report is organized in traditional divisions and generally in keeping with the suggested report outline of the United Nations. Since a tremendous amount of raw data was assembled it was felt that this would be the most concise and orderly manner in presenting our key findings. The first step in the study was to examine the background of Domsuiza and its products. In subsequent steps, an evaluation of production, a financial analysis and finally an examination of the market for the Domsuiza products were made.

Throughout the report, we have used RD\$ to indicate Dominican Republic dollars which are on a par with the United States dollars.

Originally in the preparation of this report the metric system was used. However, this became impractical and the United Nations granted a waiver of this requirement. Subsequently, English measure was used for those references which in the Dominican Republic are commonly quoted in the English system, i.e.; four by eight foot panels. In each instance we have quoted dimensions in the system of measurement which would be most easily understood. The plant layout drawings have been kept in the metric system.

This report is being submitted in English and Spanish. There are always inherent translation problems with this requirement. Perfection of style has been sacrificed to some extent in an attempt to keep meanings clear and identical in both English and Spanish. Certain engineering drawings have not been translated into Spanish. These drawings which describe backup material will be comprehensible to engineers, regardless of their native language.

The cooperation and assistance we received from people both in and outside of the Dominican Republic is gratefully acknowledged.

Bothedule of Fuel Requirement for Production of Veneered Bagasse Board

Calculation of Fuel Requirements

Parameters:*

- 48 metric tons of bagasse fiber per day for dryers
- moisture content of bagasse at 15% before drying
- moisture content before mixing to be reduced to 4%
- 2200 BTU required to evaporate one pound of water
- 150,000 BTU supplied per gallon of fuel oil

Oil Required for Flash Dryers

Water to be Evaporated

= (48.0) (2200) (.15 - .04) =

= 11,600 lb. per day

Oil Quantity

= (11,600) (2200) 150,000

= 170 gallons per day

Oil Cost

Quantity = 170 gallons per day

Price = RD\$. 10 per gallon

Cost = RD\$17.00 per day

Annual Cost = $17.00 \times 250 = RD$4,250$

*Based on experience in other mills, it is expected that the trim, pith, and miscellaneous waste will supply ample fuel for the heating of the presses and log vats. (No heat required in buildings).

DOMSUIZA

Schedule of Paircet La or and Administrative Expense, Veneered Bagasse Board Production

Indirect Labor	Cost Per Day
Manager (50% allocation) Quality Control (Chief plus Asst.) Superintendent	RD\$19 20 24
Sub-total	RD\$63
Fringe Benefits (25%)	16
Total	RD\$79/day
Annual Cost	RD\$19,750
Administrative Expense	
Manager (50% allocation) Accountant Clerks (3) at RD\$9 each Typist	RD\$19 21 27 3
Sub-total	RD\$ 7 5
Fringe Benefits at(25%)	1)
Total	RD\$94/day
Annual Cost	RD\$ 22, 500

DOMSUIZA Schedule of Depreciation of Buildings and Equipment for Producing Venecred Bagasse Board

	Buildings			
	Residual Value	Restoration (+) Missing Equipment		
Bagasse Particleboard Line	RD\$51,000	RD\$ 98,000		
Veneer Line	21, 750	24, 600		
Layup Section	21, 250	41,000		
Total	RD\$85,000	RD\$164,000		
Total Residual Value + Neede	d Improvements	= \$249,000		
Depreciation - Buildings, 20		= $12,450/yr$.		

	Equipment			
	Residual Value	Restoration (+) Missing Equipment		
Bagasse Particleboard Line	RD\$174,800	RD\$509, 800		
Veneer Line	50,650	139,000		
Layup Section	24,050	205, 700		
Total	RD\$249,500	RD\$854, 500		
Total Residual Value + Neede	d Improvements	= RD\$1, 104, 000		
Depreciation - Equipment 10		= 110, $400/y r$.		
Total Buildings, Equipment a	nd Improvements	= RD\$1,353,000		

DOMSUIZA Schedule of Working Capital New Capital Requirements Interest Expense and Insurance Expense for Producing Veneered Bagasse Board

Estimate of Peak Working Capital (b)		Estimate of Average Working Capital (b)	
Bagasse Inventory (6 mo.)	RD\$ 90,000	Bagasse Inventory (3 mo.)	RD\$ 45,000
Other Raw Material In- ventory (2 mo.)	125, 290	Other Raw Material Inventory (2 mo.)	125, 290
Finished Goods and A/R	123,170	Finished Goods and	·
(60 days)	323,000	A/R	323,000
Start Up - Training and Miscellaneous	80,000	Miscellaneous	30,000
	RD\$618,290		RD\$523,290

New Capital Requirements

Building Restoration + Missing Equipment Equipment Restoration + Missing Equipment Working Capital		RD\$	•	Schedule 9 a)Schedule 9 c)
Total New Capital		RD\$1,	636,290	
Interest Expense at 7%	=		114,540	(a)
Total - Buildings, Equipment and Improve-				
men ts	=	1,	353,000	(Schedule 9)
Fire and Liability Insurance @ 2%	Ξ		27,060	

- (a) For production operating levels at less than 67% capacity, the expenses associated with purchasing an additional briquetting plant (RD\$180,000) must be removed.
- (b) For production at less than full capacity, working capital is reduced proportionately.
- (c) Peak working capital requirements are used as the basis for interest calculations for the first year of operations.

DOMSUIZA
Plywood
Computation of Estimated Sales Price

Annual Production - 10,000 metric tons		Ope	rating Lev
Basis - 3/4" plywood - 7 ply	1,667 ic s	3, 333 tons	6, 667 to
	year	y ea r	yea
Raw Materials - Schedule 1			
Logs (1/10" veneer)	RD\$151 ,985	RD\$ 303,970	RD\$ 60 '
Logs (1/6" veneer)	190,000	380,001	76.)
Glue (6 lines)	380,000	76,000	154
Subtotal	379,985	759,971	1 ,513
Operating Expenses		\	
Direct Labor (veneer production) - Schedule 2	22,950	45, 900	9 i
Direct Labor (plywood from veneer) - Schedule 3	20,6 50	41,300	84
Supplies - Schedule 4	6,666	13,333	2 6
Contingencies and Miscellaneous Expenses	6,334	12,667	2:
Subtotal	56,6 00	117,200	2 34
Utilities Power - Schedule 4	5,600	11,200	2.
Fixed Overhead Expense	10.750	10 750	:
Indirect Labor - Schedule 5	19,750	19,750	1
Fire and Liability Insurance - Schedule 7	10,380	10,380	
Depreciation Equipment - Schedule 6	41,940	41,940	
Depreciation Buildings - Schedule 6	4,980	4,980	
Subtotal	77,050	77,050	71
Operating Cost Total	519,235	965, 421	<u>1,8</u> 5
General Overhead Expense	23, 500	23, 500	2;
Administrative Expense - Schedule 5	29, 75 4	53, 085	9
Sales Expense at 4% of Sales	37,482	46, 242	į.
Interest Expense 7% of (I, 161, 300)	31,700		-
Subtotal	90,736	122,827	1 &
Total Cost	609, 971	1,088,248	2,0-
Units (1000 sq. ft.)	1,583	3,166	
Cost per 1000 sq. ft.	385	344	
Sales @ 18% profit before taxes	743,867	1,327,132	2,48
Sales price per 1000 sq. ft.	470	419	

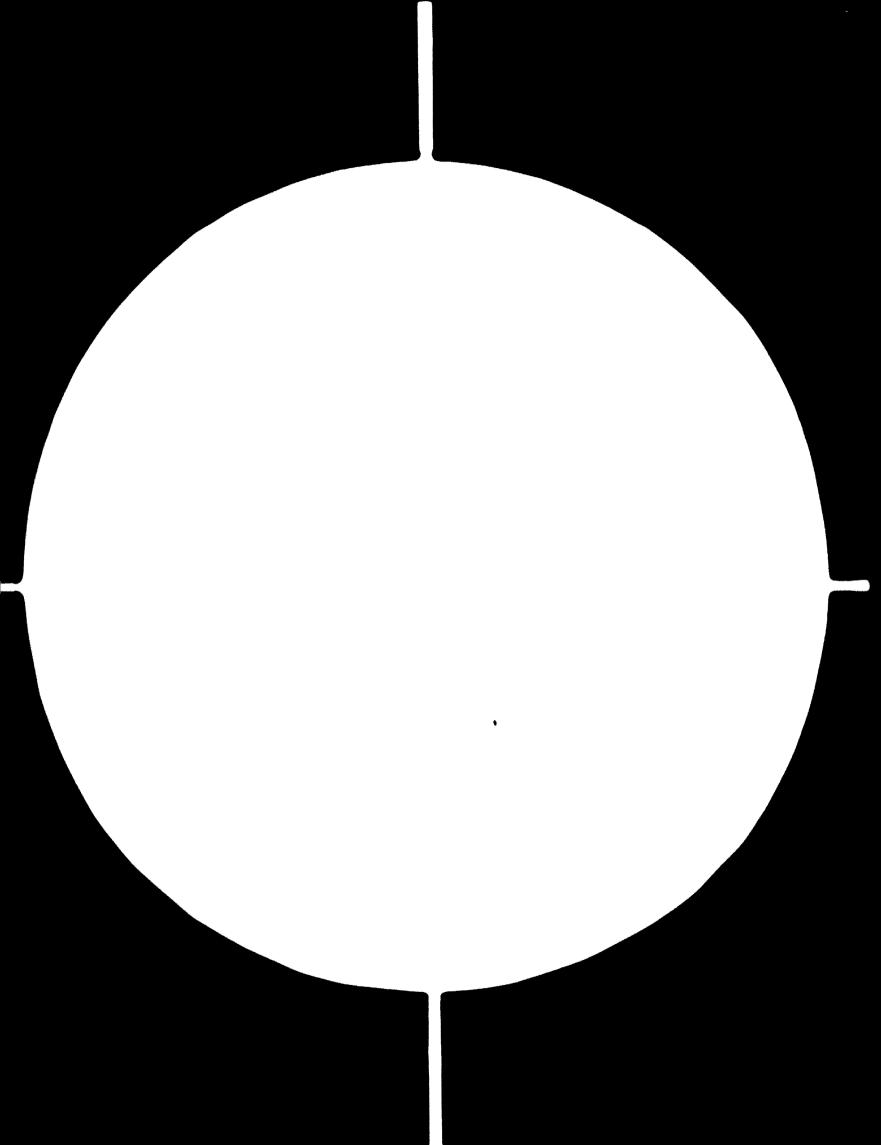
DOMSUIZA Plywood Computation of Estimated Sales Price

ric tons	Operating Level				
	1,667 to s	3,333 tons year	6,667 tons year	10,000 tons year	
	RD\$151,985	RD\$ 303,970	RD\$ 607, 940	RD\$ 912,000	
	190,000	380,001	760,004	1,140,000	
	380,000	76,000	152,000	228,000	
i.i	379, 985	759, 971	1,519,944	2,280,000	
tion) - Schedule 2	22, 950	45, 900	91,800	114,750	
eneer) - Schedule 3	20,6 50	41,300	82,600	103,250	
·	6, 666	13, 333	26, 667	40,000	
eous Expenses	6,334	12,667	23, 333	35,000	
al	56,600	117,200	234,400	293,000	
	5, 600	11,200	22,400	28,000	
	19,750	19,750	19,750	19,750	
- Schedule 7	10,380	10,380	10,380	10,380	
nedule 6	41,940	41,940	41,940	41,940	
edule 6	4,980	4, 980	4,960	4,980	
al	77,050	77,050	77,050	77,0 50	
	519,235	965, 421	1,853,794	2,678,050	
nedůle 5	23,500	23, 500	23, 500	23,500	
	29, 754	53, 085	99, 542	142,709	
1,300)	37,482	46,242	63, 767	81,291	
al	90,736	122,827	186, 809	247, 500	
	609, 971	1,088,248	2,040,603	2, 925, 550	
	1,583 385	3, 1 66 344	6, 333 322	9,500 30 8	
	743,867 470	1,327,132 419	2, 488, 540 393	2, 567, 745 376	

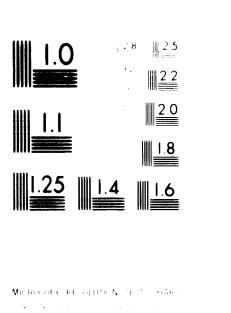
Exhibit F
Plywood: Projected
Costs and Sales Price

C - 925

82.10.28



2 OF



24 × E

DOMSUIZA Veneer for Export Market*

Computation of Estimated Sales Price

Annual production - 8,000 M bd. ft. logs processed
- 64,000 M sq. ft. 1/16" veneer produced
- two shifts - 16 hours/dry - 250 days/year

	Annually
Raw Material Log Cost - Schedule 1	RD\$ 960,000
Operating Expenses Direct Labor - Schedule 2 Supplies - Schedule 3 Contingencies and Miscellaneous	124,250 40,000 35,000
Subtotal	199,250
Power - Schedule 3	10,500
Fixed Overhead Indirect Labor - Schedule 4 Fire and Liability Insurance - Schedule 1 Depreciation Equipment - Schedule 5 Depreciation Buildings - Schedule 5	13,500 6,810 18,960 1,870
Subtotal	41,140
Operating Cost Total	1,210,890
General Overhead Expense Administrative Expense - Schedule 4 Sales Expense @ 4% of Sales Interest Expense - Schedule 6	21,000 65,173 39,000
Subtotal	125, 173
Total Cost Units Cost per 1000 sq. ft. Sales @ 18% profit Sales price per 1000 sq. ft.	1,326,076 64,000 \$25/1000 1,617,160 \$21/1000

^{*} Because domestic markets for veneer are non-existent, this exhibit has been calculated on the basis of full production for the export market only.

DOMSUIZA Schedule of Raw Materials For the Production of Veneer

Production Rate and Parameters

All schedules are calculated at full production capacity.

32 M bd. feet of logs processed per day

Veneer line operates two shifts per day

Daily capacity (basis 1/16" veneer) = 256 M sq. ft.

Annual capacity (basis 1/16" veneer) - 64,000 M sq. ft.

Driers operate 24 hours per day

Log Requirements

Quantity of veneer produced (50% yield)

= (32) (16) (.5)

= 256 M sq. ft/day

Quantity of logs processed

= 32 M bd. ft.

Unit Price = RD\$120 per M bd. ft. (Doyle Scale)

Log Cost = (120) (32) = RD\$3840/day

= RD\$960,000/yr.

DOMSUIZA
Schedule of Direct Labor
For Producing Veneer

Position	Men	Shift.	Men Per Day	Rate Per Day	Cost Per Day RD\$
Truck Driver	_		•	224 7	PD¢ 14
(dock to plant)	1	2	2	RD\$ 7	RD\$ 14
Common Laborers					
(log loaders and		_	_	4	32
unloaders)	4	2	8	4	32
In and Out of Vats	4	2	8	4	32
Log Crane Opera-			_	•	1.4
tor	1	2	2	8	16
Lathe Charger	2	2	4	8	32
Lathe Operator	1	2	2	10	20
Reel Operators	2	2	4	8	32
Green Sorting	3	2	6	7	42
Drier Feeders	3	3	9	5	45
Drier Off Bearing	3	3	9	5	45
Clean Up Man	1	3	3	4	12
Guard	1	3	3	6	18
Foreman	1	3	3	19	57
Subto	tal				RD\$397
Fring	ge bene	efits, va	cations,	etc. @ 25%	100
Total direct labor/day				RD\$497	
Annu	al Cos	t			RD\$124, 250

DOMBUIZA Schedule of Supplies, Power and Fuel Requirements for Producing Veneer

Supplies

Experience with similar facilities indicates that production supplies will include the following:

Oil Lathe Knives
Grease Bearings and Belts
Saw Blades Miscellaneous

Cost RD\$160/day Annual Cost RD\$40,000/yr.

Power

Production of veneer requires 15% of the total plant power as calculated in Schedule 6 of Exhibit E.

Cost = (RD\$5919 (.15) = 875/mo. Annual Cost = RD\$10,500

Fuel

From experience at similar plywood mills it is expected that the trim and miscellaneous waste will supply ample fuel for process heating. (No heat required in building)

DOMBUIZA Schedule of Indirect Labor and Administrative Expense for Veneer Production

Indirect Labor	Cost Per Day
Manager (50% allocation) Superintendent	RD\$19
Sub-total	RD\$43
Fringe Benefits 25%	11
Total	RD\$54/day
Annual Cost	RD\$13, 500
Administrative Expenses	
Manager (50% allocation) Accountant Clerks (3) at RD\$9 each	RD\$19 21 27
Sub-total	R D\$67
Fringe Benefits at 29%	17
Total	RD\$84/day
Annual Cost	RD\$21,000

DOMSUIZA Schedule of Depreciation

of Buildings and Equipment for Producing Veneer

Buildings

Residual Value Missing Equipment + Restoration	RD\$	12, 750 24,600
Total	RD\$	37, 350
Depreciation 20 years, Straight Line	=	1,870/yr.

Equipment

Residual Value	RD\$ 50,650		
Restoration + Missing Equipment	139,000		
Total	RD\$189,650		

Depreciation 10 years, Straight Line = \$ 18,960/yr.

Total Buildings, Equipment and Improve = \$227,000 ments

DOMSUIZA

Schedule of Working Capital New Capital Requirements Interest Expense and Insurance Expense for Producing Vencer

Estimate of Average Working Capital

Raw Material Inventory (logs - 2 mo. Accounts Receivable Financing (2 mo.) Miscellaneous	RD\$160,000 200,231 30,000
	RD\$390,231
New Capital Requirements	
Building Restoration + Missing Equipment Equipment Restoration + Missing Equipment Working Capital	RD\$ 24,600(Schedule 5) 139,000(Schedule 5) 390,231
Total New Capital	RD\$553,831
Interest Expense at 7% Total - Buildings, Equipment and Improve-	RD\$ 39,000
menta	227,000(Schedule 5)
Fire and Liability Insurance + Miscellaneous ② 3%	6,810

Cost/Benefit Analysis

The most important guidepost for judging the viability of Domsuisa is projected profitability. This will be developed in the section on Marketing.

There are, however, other criteria for judging the project. Here, production economics are discussed in the light of two other important criteria:

Local raw material usage: Development of industries using a predominance of inexpensive readily available local materials reduces the dependence on imports, saves foreign exchange, and tends to put the new venture on a sound competitive foundation.

Labor intensive production: The creation of jobs and development of skills for the local citizens are definited by desirable and put wages into the economy.

Raw Materials: Upon examining the breakdown of operating costs for each of the three products, it becomes evident that raw materials constitute the single most important factor in operating costs. This is graphically illustrated in Exhibit H. Raw materials represent 52 per cent of the operating cost for producing veneered bagasse board, 87 per cent for plywood and 80 per cent for veneer. Unfortunately, imported goods contribute over 80 per cent of the cost of these raw materials for veneered bagasse board, and 100 per cent of the cost for both plywood and veneer. The Domsuisa venture definitely does not produce intensive usage of local raw materials on the RD\$ basis.

Domsuiza is not close to the source of raw materials, and the transportation costs involved in bringing raw materials to the work site put Domsuiza at an immediate competitive disadvantage. Raw material costs and availability are beyond the control of Domsuiza; fluctuations in costs and availability of raw materials will have a pronounced effect on production. For instance, the price and supply of veneer logs are critical factors. Costs for each of the Domsuiza products are closely tied to the log supply and indications here regarding future price and availability are not encouraging.

An increasing number of South American countries are restricting log exports and the price trend for logs is decidedly upward.

Labor: Analysis of the operating cost for producing veneered bagasse board indicates that direct and indirect labor account for 23.2 per cent of the total. As developed later in the Marketing section, foreign markets are inaccessible to Domsuiza's veneered bagasse board principally because of the low market price levels at which Domsuiza cannot compete. Assuming that Domsuiza were to produce only for the Dominican market at a one-shift capacity (2,500 metric tons per year), the operation would require approximately 75 employees. Gross wages and salaries would amount approximately to RD\$167,000.

The operating cost total for producing plywood shows that labor accounts for only 7.0 per cent while imported raw materials account for 86.6 per cent. These operating costs produce sales prices that are not competitive in foreign markets. Producing for the local market, the plywood plant would operate at 16 per cent of capacity and would require less than 30 persons. These employees would earn about RD\$76,000 annually.

Veneer production, like plywood, also requires that all raw materials be imported. In the production of veneer, labor accounts for only 10.7 per cent of operating cost. Raw materials account for 79.9 per cent of operating cost. Local demand for the product is negligible and the operating cost of RD\$20 per 1,000 square feet of 1/16" veneer is not competitive in world markets. Thus, the venture could not be mobilized on the basis of producing and selling veneer.

To summarize, the costs of those benefits which would accrue to the country if Domsuiza were mobilized must be weighed in light of the already huge financing requirements (in excess of RD\$1,500,000) necessary to revitalize and operate the plant. If Domsuiza is set up to produce the veneered bagasse board which domestic markets will absorb, about 75 men will be employed and they will earn RD\$167,000 annually. The government, however, will lose over RD\$300,000 annually in import duties now levied on the products Domsuiza will replace. Imported raw materials will require over RD\$250,000 in foreign exchange each year. Plywood

EXHIBIT H DOMSUZA

ANALISIS DEL COSTO DE OPERACION
TABLA CHAPEADA DE BAGAZO, MADERA LAMINADA Y CHAPA

		VENEER	PLYWOOD	VENEERED
				• • • • • • • • • • • • • • • • • • • •
				42.3 %
	300 at 600 miles			
	FILES BROIS			
		• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	
	Committee of the commit			• • • • • • • • • • • • • • • • • • • •
	PRINTED BANK MATERIAL S		• • • • • • • • • • • • • • • • • • • •	
CASTOS CASTOS				
COTROS GASTOS CASTOS		ここ 尺のがし ・・・		
CAL RAW MATERIAL LOCAL RAW MATERIAL LOCAL COCAL				
CASTOS CASTOS				
OTROS GASTOS LABOR NAMO DE OBRA 23.3 % LOCAL RAW MATE				

	IAIGATE WATERIA			
				× 2 C22 &
		• • • • • • • • • • • • • • • • • • • •		
	ı			
	•			
	_			
			O CONTRACTOR	24.2%
	STANCE CACTOR			
				0000000

SOURCE: DATA DEVELOPED IN EXHIBITS E,F & G.

CHA

MADERA LAMINADA

> TABLA CHAPEADA DE BAGAZO

FUENTE: INFORMACION OBTENIDA EN EXMBITS E, F y G.

DOMSUIZA Schedule of Raw Materials To Produce Plywood

Production Rate and Parameters

All schedules are calculated at full production capacity
Daily capacity (3/4", 7 ply basis) = 38 M sq. ft.
Annual capacity (3/4", 7 ply basis) = 9500 M sq. ft.
Driers operate 24 hours per day.
Main plant operates two shifts per day.
Finished glued plywood is an assembly of two 1/10" faces,
two 1/10" centers, and three 1/6" rossbands.

Log Requirements

Veneer yield = 50%

1/10" Veneer

Quantity 1/10" veneer required/day
= 4 veneers x 38 M sq. ft/day
= 152 M sq. ft./day

Quantity Logs to produce 152 M sq. ft. 1/10" veneered
50% yield
= 152/10 x 2
= 30.4 M bd. ft.

Unit Price = RD\$120/1000 bd. ft. Doyle Scale
Log Cost = (120) (30.4) = 3, 648/day
= RD\$912,000/yr.

production produces the same kind of unfavorable trade off. Domsuiza could produce and satisfy its projected share of the domestic plywood market by employing roughly 30 men at an anual wage of RD\$76,000. Duties lost on imported plywoods would cost the government over RD\$200,000 each year, and production would require roughly RD\$380,000 of raw material imports.

Foreign exchange benefits are held to a bare minimum. The high percentage of raw materials that must be imported to produce bagasse board, plywood, or veneer, and the necessity to import oil as a fuel replacement for bagasse at the Ozama and Barahona sugar mills are the determining factors here.

MARKETING

A marketing analysis of the Domsuiza complex must concern itself with the three products which the plant can produce utilizing present equipment. These products are:

Veneered Bagasse Board: This is made by facing a compressed particleboard with a thin wooden veneer on both sides. It was intended for use primarily as a building material; also as furniture manufacturing stock, and smaller household goods such as trays and cases.

This panel board was to have been the chief Domsuisa product. For this reason the most intensive survey work has been done on this product.

Plywood: Plywood is a cross banded assembly made of layers of veneer. The grain of each layer is set at right angles to that of the preceding one. Although there is appreciable demand for plywood in construction materials and furniture stock in the Dominican Republic, Domsuiza's planners intended to supplant this market with veneered bagasse board, rather than by producing plywood.

Veneer: Veneer is a thin sheet of wood peeled from logs by a rotary cutter. There was no intention of marketing Domsuiza veneer directly. The veneer line was to have supplied facing for the bagasse board cores.

To discuss marketing further, each product has been analyzed in so far as possible with regard to:

<u>Product Evaluation</u> - A produce rating on the basis of quality and competitiveness in its intended markets.

<u>Domestic Market</u> - An analysis of local demand, related pricing problems, and possible penetration.

Export Market - An analysis of international demand, related pricing problems, and possible penetration.

Veneered Bagasse Board

Product Evaluation: The veneered bagasse board does not measure up to the qualitative standards which the markets of the Dominican Republic set for similar products. An early prospectus for Domsuiza made many claims for the product that would be difficult to fulfill:

"Cane Bagasse.... is an excellent construction material, and the qualities of the sheets thus obtained are far superior to that of lumber."

"(It is) of long duration: it is estimated that a house built of this material, under adequate condition of preservation should last more than 50 years."

"(It is) highly insulating for heat and sound."

"Easy to work."

"Low specific weight which does not interfere with its high resistance, contributing greatly to easy handling and transportation."

"As a fire resistant material it is much superior to wood "

"Very economic, because of the low price of the raw material, and of its processing"

It was found that dealers in the market have little belief in these speculative claims.

First, the manufacturing process for producing the bagasse particleboard cores used at Domsuiza (the extrusion process) limits the product. Because their extruder does not lend itself well to production of such desirable thicknesses as 1-1/2", and because it is not practical to produce thicknesses less than 1/2", the veneered bagasse board cannot be sold in the variety of thicknesses demanded by the market. Also, extruded bagasse board is very weak; as a result, it must be faced on both sides with veneer.

Second, because of the costs entailed in veneering the bagasse board, procuring raw materials, and processing, the product is not "very economic". This has been more thoroughly discussed in the preceding sections on Raw Materials and Operating Costs.

Third, it is difficult to conclude that veneered bagasse boards will have significant fire resistant qualities, without the addition of expensive fireproofing chemicals in the production process, when bagasse is currently being used as a fuel in the boilers of Dominican sugar refineries. Dominicans have had previous fire experience with housing built of lignocellulosic materials; several years ago a large barracks for sugar workers sustained severe fire damage.

Fourth, although the low specific weight of veneered bagasse board does contribute to ease of handling, this same property, in combination with the low value of the product, may create an uneconomical shipping cargo. This could detract from the feasibility of developing export markets.

Fifth, veneered bagasse board is not as easy to work as standard particleboard. Bagasse board has a tendency to split, or splinter when sawn. Because of residual

sand and dirt not filtered out in production, the boards have a reputation for dulling tools. They cannot be routed or grooved to any substantial depth because of the veneer layers, and the soft cores have a sloppy appearance unless an edge strip is applied. For a number of applications they have poor nail holding characteristics.

Sixth, concerning the high insulating qualities and long duration of bagasse board, it should be pointed out that in the Dominican Republic today, the preferred building material is concrete. Veneered bagasse board can hardly compete in these areas with concrete.

Finally, there is no evidence that veneered bagasse board is generally stronger than wood. Extruded bagasse boards have to be overlayed to meet minimum standards. The bagasse board is extremely water absorbant, and if exposed to moisture may expand and possibly buckle. Evidence of this is readily observable in one section of the severely decayed bagasse board roof at the Domsuiza plant.

Domestic Market Traditionally, the domestic market for Domsuiza veneered bagasse board has been identified with the national need for low income housing. Not only was Domsuiza to have provided a new low cost building material, but plans were laid to build prefabricated homes at the plant as well.

Two methods have been used of approximating the domestic market for veneered bagasse board. First, specific market sectors which seemed most susceptible to penetration by the Domsuiza product have been examined. Considering product quality and possible pricing strategies wherever necessary, we estimated marketing potential and general feasibility. Second, we have examined the overall profile of the market by looking at the annual

consumption of similar and competitive products. Again, considering the comparative strengths and weaknesses of the product, we have estimated the degree of penetration and market share that could be expected.

Market Sectors

Prefabricated Housing: Those who planned Domsuiza did not under-estimate the Dominican Republic's need for low cost housing. Most economic forecasts for the next several years predict a boom in residential construction. Given this need, it is more than likely that the Dominican Government will enter the construction business for underprivileged segments of the general public or, as it has upon occasion, for particular sections of the work force.

Despite this, it is unlikely that this new construction represents a significant market for veneered bagasse board. The quality of bagasse board housing, and the high cost of producing it does not provide a basis for challenging competitive products.

Before discussing the specific role of veneered bagasse board in this particular market sector, certain basic requirements for housing and construction must be examined:

The Dominican Republic enjoys a semitropical climate with temperatures ranging between 65 and 95 degrees Fahrenheit. Rainfall averages around 55 inches per year. Coolness and water resistance are therefore definitive factors in housing materials. Likewise, control of damp rot and dry rot are important; the vermin resistant qualities of any building material are also important.

Hurricanes cause substantial damage in the Dominican Republic. Wind resistance and

general strength are other key factors in the selection of building materials.

Field research indicates that prospective housing consumers, especially those concerned with housing the poor and the sugar workers, place high priority on the fire retardant qualities of building materials.

Finally, the price of housing must be low and maintenance costs must compare favorably with that of existing structures.

Because of its superiority in fulfilling these requirements, Dominicans prefer building with cement. To the extent that they can be measured, trends show an increasing preference for concrete building products rather than wood based materials.

These housing requirements represent serious difficulties if bagasse board is to be introduced as a major building material; the Domsuiza product does not compare favorably with concrete in any of these categories. Generally, consumer resistance will be based on the following:

Bagasse housing is warmer; much less water resistant; more susceptible to damp rot, dry rot, and vermin than concrete.

Dominicans have had previous experience with housing built from lignocellulosic materials. As previously mentioned, a large barracks built with such materials sustained fire damage and proved expensive to maintain.

There is a prestige factor of some importance here. The nationwide preference is for the cement, stone, and stucco housing prevalent in higher priced homes. As a matter of status the low income home owner wants this for himself.

Veneered bagasse board cannot be expectted to last as long as stone or cement. This means that the long term mortgages so crucial to any low cost housing program might well outlast the houses themselves. For instance: the sugar authorities offer low cost housing to field workers at a month. ly rental of RD\$5. At the end of five years, the accumulated amount is considered a down payment if the worker wants to buy the house. He continues to pay on the same monthly basis until the house is paid for. Assuming a total cost of RD\$1,000, the man pays for his house in 17 years. Unlike the bagasse board houses, coment dwellings would at this point have an almost indefinite useful life. The former could not be expected to last as long.

Finally, the bagasse board houses cannot be priced competitively. The preferred cement houses are being offered at attractive prices, i.e. RD\$1,300 per unit with 42 square meters of floor space. To overcome the consumer resistance, and inferior quality mentioned above, houses constructed with the Domsuiza product must be priced considerably lower than this. But because of the high cost of bagasse, logs, and other imported raw materials, Domsuiza's best price for a prefabricated house of comparable dimensions, standards and design would be over RD\$2,100.

To conclude, prefabricated housing of veneered bagasse board:

Can be neither built nor maintained as inexpensively as cement houses.

Is not as weather or rot resistant.

Will encounter significant consumer resistance.

For all these reasons, it cannot be claimed that bagasse board has a major role in the country's low cost housing effort. Domauisa cannot be made a viable operation if it must depend on this sector of the market.

Cores

Cores which form the center stock of plywood panels, table tennis tops, and directe table tops represent a possible market for the Domsuisa product. The most common use for cores is in the production of doors.

If used for door cores, the four foot Domsuisa panels must be cut down to "standard" widths, and this creates a waste problem. Here is a tabular analysis of these standards and the wastage incurred by the production of cores from 4' namels.

	Wastage
	(Based on the 4'
Core Width	Domeuisa Board)
24"	None
26"	One 22" blank
28"	One 20" blank
30"	One 18" blank

It is because of the extensive overage shown here that core manufacturers favor the 5' panels which Domesisa cannot produce. The 5' board yields waste free cores in four marketable combinations of widths (24" x 36"; 26" x 34", 28" x 32", 30" x 30").

Finding a new market for the overage produced by the Domeuisa boards would be difficult and expensive. Currently, the only industry in the Dominican Republic which might use this overage is furniture manufacturing. The cost of further cutting to required sises, marketing and transporting it to furniture manufacturers would be high. To conclude, there is only a limited market for cores in the Dominican Republic. The Domsuiza product line could not be adapted to core producation without creating a waste problem. Marketing this waste would require further production expenses. There is considerable resistance from both potential core consumers, and furniture manufacturers to bagasse board.

We feel that this combination of facts and attitudes precludes significant core production as a feasible operation for the Domsuiza plant.

Furniture

The 4' x 8' veneered bagasse board panels might be produced exclusively for consumption by furniture makers, but a series of factors militate against this.

The market represented by the furniture industry is small and geographically scattered. Much of the furniture is custom built, the use of plywood, wallboard, and particleboard is limited. There is no veneered bagasse board being used at all, and to the extent that they use this kind of product, furniture manufacturers expressed a decided preference for the unveneered hardboards which are now imported from Sweden.

Only an entirely unprofitable pricing strategy would capture a share of this market for the Domsuiza product; the production of raw materials for the furniture industry cannot be considered a feasible operation for Domsuiza.

Overall Profile

Because there is no panel board produced in the Dominican Republic, import statistics for this type of product provide a fair evaluation of current markets. Such statistics for the ten year

1/6" Veneer

Quantity 1/6"

veneer required/day

= 3 veneers x 35 M sq. ft./day

= 114 M sq. ft/day

Quantity Logs to produce 114 M sq. ft.1/6" veneer ©

50% yield

= \frac{114}{6} x 2 = 38 M bd. ft.

Unit Price = RD\$120/100 bd. ft. Doyle Scale

Log Cost = 120 (38) = RD\$4560/day

Glue - for veneering

Area for gluing - seven ply requires six glue lines.

= RD\$1,140,000/yr.

 $= 38 M \times 6 = 278$

Unit Cost = RD\$4/M sq. ft.

Cost = $4 \times 278 = RD$912/day$

= RD\$228,000/yr.

period 1957-1967 are included below as Exhibit I. It should be clearly understood that these figures represent imports for all kinds of panel board (wallboard, particleboard, veneered board, hard board). Domsuiza could not produce the range of products included in this tabulation. Countries of origin include Japan, Spain, Portugal, Honduras, Taiwan, and the United States.

Market Share

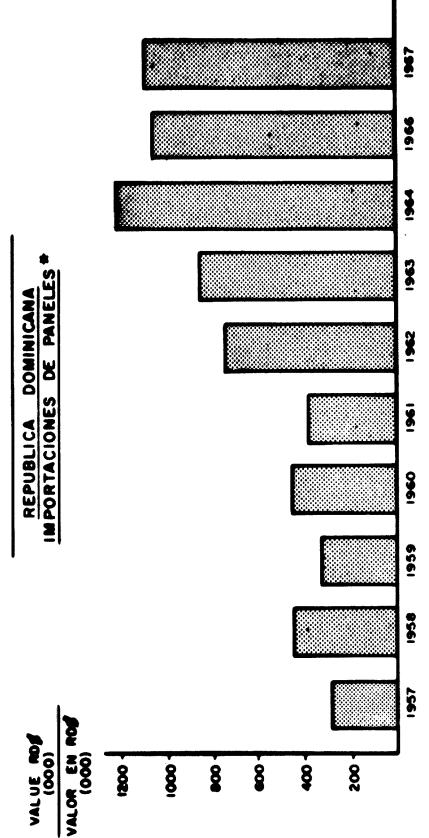
When the plant is operating at its full three shift capacity, the cost to Domsuisa of producing M square feet of 3/4" standard veneered bagasse board is RD\$214. With an 18 per cent profit, dealers cost could be RD\$262/M square feet.

Because of the product limitations and consumer resistance already mentioned, the Domsuiza boards will have to be sold for less than the going prices for competitive products to capture any significant share of the market at all. If discounted by 10 per cent (off going panel board rates) it is estimated that Domsuisa would be fortunate to achieve a 20 per cent penetration of the market or a volume demand for 1,760 metric tons of veneered bagasse board per year. A 15 per cent discount would result at the very most in 30 per cent of the market - 2,638 metric tons annually. Product characteristics militate strongly against further market penetration even with greater discounts. The Domsuisa board cannot compete with imported boards for many uses.

Demand on this scale represents only a small portion of plant capacity. Production of 1,759 metric tons requires only 23 per cent of plant capacity; for 2,638 metric tons 35 per cent is required. At these low operating levels,

BOARD IMPORTS DOMINICAN REPUBLIC PANEL

EXHIBIT



* BECAUSE THE CIVIL WAR INTERRUPTED NORMAL IMPORT PATTERNS, FIGURES FOR 1965 DOMINICANA SOUNCE: COMERCIO EXTERIOR DE LA REPUBLICA HAVE BEEN OMITTED.

PLAS CIFRAS PARA 1965 SE HAN OMITIDO DEBIDO A QUE LA GUERRA CIVIL INTERRUMPIO FUENTE: COMERCIO EXTERIOR DE LA REPUBLICA DOMINICANA. EL RITMO NORMAL DE LAS IMPORTACIONES.

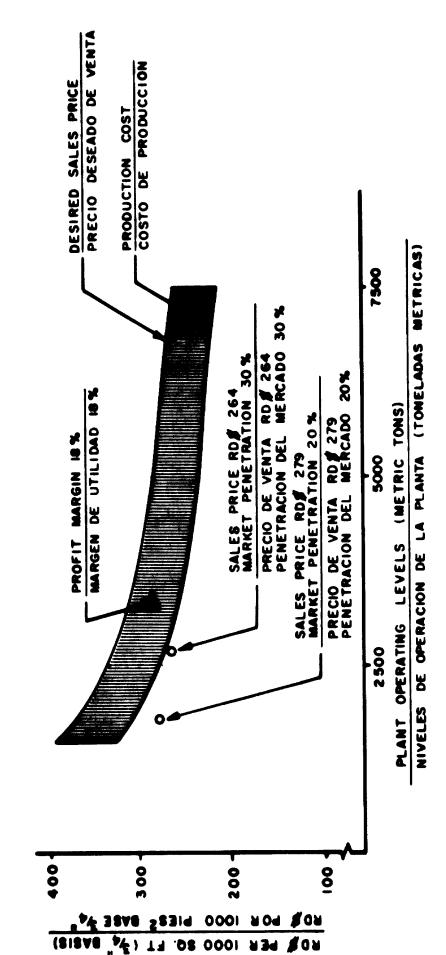
VENEERED BAGASSE BOARD

PRODUCTION COSTS AND PRICING AT WARIOUS

EXHIBIT J

MARKET PENETRATION LEVELS AND PROJECTED LOCAL OPERATING

PROTEGIDO NIVELES DE OPERACION Y PENETRACION DEL MERCADO LOCAL COSTOS DE PRODUCCION Y PRECIOS A DIVERSOS BAGAZO CHAPEADA TABLA DE



SOURCE: DATA DEVELOPED IN EXHIBIT E.

FUENTE: INFORMACION OBTENIDA EN EXHIBIT E.

production costs are, of course, much higher. The relationship between price levels, market penetration levels and plant capacity is shown graphically in Exhibit J. It is clear that possible penetration levels do not provide large enough markets for Domsuiza to operate profitably. In each case, low operating levels create production costs slightly greater than the sales prices required for market penetration. Domsuiza cannot operate on this basis.

Export Market

Although the United States and Europe seem to offer potential foreign markets for Domsuiza there are actually almost no export markets for veneered bagasse board. Product limitations have created a poor industry attitude toward extruded particleboard, particularly in the nearby United States markets. The high cost of raw materials, production and shipping (the consequence of a high cubage/low dollar value ratio) preclude competitive international prices for Domsuiza's boards. Nearby nations impose tariffs - the 16 per cent duty levied by the United States is an example - which further detract from Domsuiza's competitiveness. Finally. Domsuiza's veneered bagasse board does not possess any unique properties that might give it an entry into those markets.

A comparison of price levels for international particle-board with Domsuiza's production costs is attached as Exhibit K. The export market picture for veneered bagasse board is also shown. At all operating levels it is clear that it would not be profitable for Domsuiza to enter the foreign market.

Plywood

Product Evaluation

Although it was not originally intended to do so, Domsuiza is technically capable of producing a complete line of competitive plywoods. This would include the full range of quality and thicknesses (3/16", 1/4",5/16", 3/8", 1/2", 5/8", 3/4"). The only constraints on product quality and versatility are those resulting from the current disrepair or lack of machinery.

Domestic Market

There is a small, but growing demand for plywood in the Dominican Republic. Import figures for the tenyear period between 1957 and 1967 illustrate this (Exhibit L below).

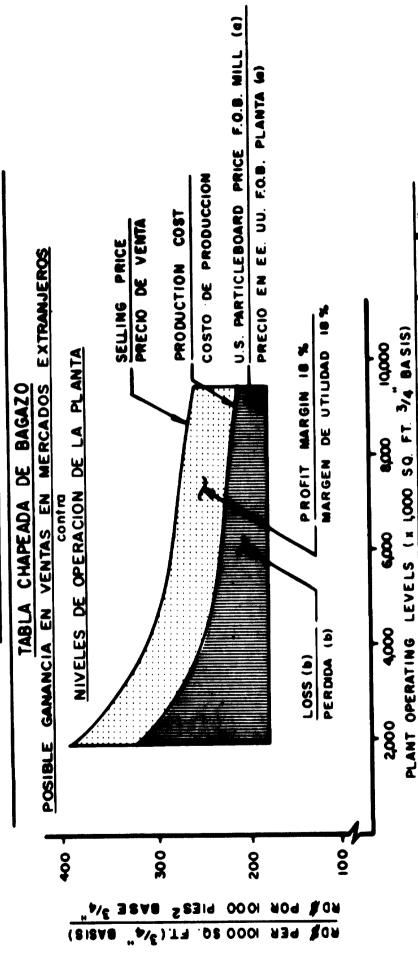
Pricing policies on Domsuiza plywoods need only be related to the costs of raw materials and processing. There is no necessity here to discount sales prices in order to market an inferior product.

Given current raw material costs, Domsuisa could produce a standard grade 3/4" plywood for RD\$180 per M square feet operating at full production. Delivered to distributors with a 20 per cent markup it could be sold for RD\$216 per M square feet. The price for competitive plywood in the Dominican market today is RD\$552 per M square feet. Under these circumstances it is not unlikely that Domsuiza could capture 90 per cent of the local market or an annual production of 1,180 metric tons. This demand requires only 12 per cent of the plant's production capacity of 10,000 metric tons. Clearly, demand on this scale does not justify the production of plywood at Domsuiza. As with veneered bagasse board this level of production would raise costs - and prices - considerably.

Export Market

Domsuisa plywoods could not be sold internationally at prices which would be competitive. Plywood prices in the world market are extremely volatile, fluctuating widely in response to many factors. In the Western Hemisphere, trends for plywood prices are set in the





PRICES ARE TYPICALLY HIGHER THAN WORLD PRICES. DOMSUIZA F.O.B. MILL PRICE NIVELES DE OPERACION DE LA PLANTA (POR 1,000 PIES² BASE 34") (a) U.S.

(b) DOMSUIZA LOSS ON EXPORTS BEFORE DUTIES AND FREIGHT ARE ADDED. U.S. FREIGHT CHARGES TO OTHER POTENTIAL MARKETS ARE EQUAL TO OR SMALLER THAN DOMSUIZAS. NOT COMPETITIVE.

SOURCE DATA DEVELOPED IN EXHIBIT E.

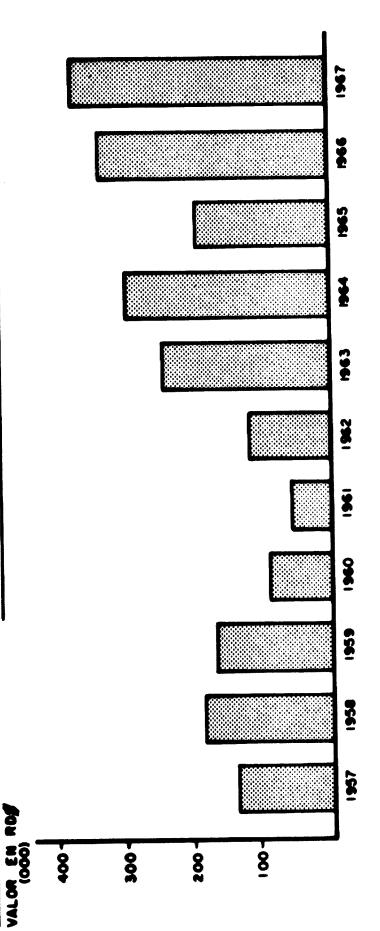
(a)LOS PRECIOS EN EE. UU. SON TIPICAMENTE MAS ALTOS QUE. LOS PRECIOS MUNDIALES. LOS PRECIOS DE DOMSUIZA F.O.B. PLANTA NO SON DE COMPETENCIA. (b)PERDIDA DE DOMSUIZA EN EXPORTACIONES ANTES DE ANADIR LOS DERECHOS Y FLETE LOS CARGOS POR FLETE DE EE. UU. A OTROS MERCADOS POSIBLES SON IGUALES O MENOMES

QUE LOS DE DOMSUIZA. FUENTE: INFORMACION OBTENIDA DE EXHIBIT E. DOMINICAN REPUBLIC PLYWOOD IMPORTS

EXMBIT L

REPUBLICA DOMINICANA IMPORTACIONES DE MADERA LAMINADA

VALUE ROS



SOURCE: COMERCIO EXTERIOR DE LA REPUBLICA DOMINICANA.

FUENTE: COMERCIO EXTERIOR DE LA REPUBLICA DOMINICANA.

SAMPLE SON & PORTER, INC.

United States. During the early part of 1969 plywood prices in the United States were at an all time high of RD\$358 per M square feet (3/4" standard grade exterior) - almost triple the price of a year ago. A poll of industry officials in the United States indicates that sufficient plywood plant capacity is now on line to force future plywood prices back to more normal levels of RD\$150 per M square feet, and in fact prices have already dropped within the past three months more than RD\$100 from earlier highes, and are presently at RD\$253 per M square feet.

Domsuiza could manufacture an equivalent plywood for RD\$296 per M square feet. Allowing for a profit margin of 15 per cent this means a price of RD\$340 per M square feet f.o.b. Domsuiza. Delivery to the United States would incur the following costs:

	Cost Per M Square_Feet
Wharfage	RD\$ 6
Shipping	42
Commission	11
U. S. Custom (16%)	35
Total	RD\$94

Added to base price, this means a price of RD\$436 per board foot delivered to the United States distributor. As can be seen in Exhibit M below, the Domsuiza price is way out of line when measured against pace setting prices in the United States market. The high costs of importing all raw materials and of producing and shipping the product exclude Domsuiza plywoods from profitably entering international markets.

Veneer

Product Evaluation

Because veneer was to have been an essential component of the chief Domsuiza product there is little doubt

that the plant was set up to produce a high quality veneer. Veneer is typically produced in thicknesses of 1/24", 1/20", 1/16", 1/10", 1/8" and 1/6". As with plywood, the only limitation on the quality of veneer which the Domsuisa plant is capable of producing results from the current disrepair or lack of equipment, and the technical training needed for operations.

Domestic Market

Within the Dominican Republic there is little market for wood veneer except when incorporated into other products. In the case of the original Domsuza plant, it was to have reinforced the bagasse board cores. It has also been used as core material and facing for plywood, and as decorative facing on panels for walls and furniture. There are very few facilities in the Dominican Republic for utilizing veneer, even if it were locally produced. Consequently, there is no effective demand for this product.

Export Market

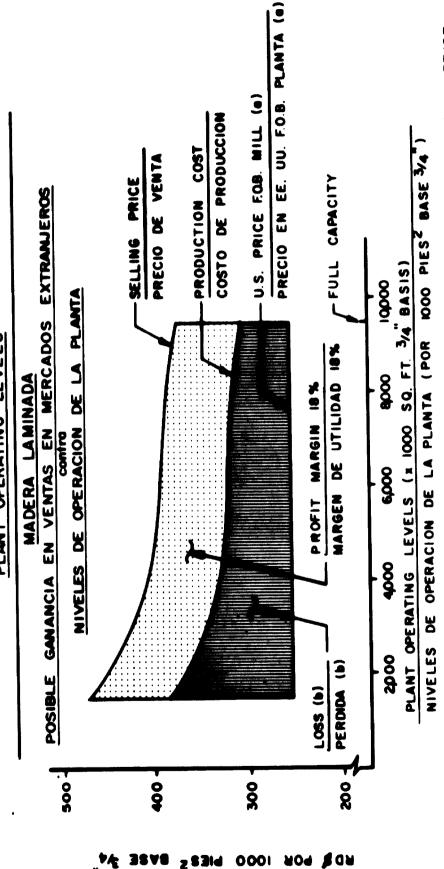
The United States represents a market for both core and face veneers, but the Domsuiza operation suffers from two competitive disadvantages here - transportation and tariffs.

Domsuisa would have to import logs for veneer production. A native Colombian species called Cativo seems best suited to this end, being in abundant supply and yielding a high percentage of veneer. Two United States companies: Pascagoula Veneer Company in Mississippi and the Bacon McMillan Company of Arkansas are presently importing Cativo logs for veneer production. However, the United States companies market their products without further transportation; Domsuiza veneer would have to be shipped east. On entry into the United States payment of the protective import duty (8 per cent) would ruin any chances for competitive pricing.

Malasian and Philippines veneers are imported into the Eastern United States and the Domsuisa veneer must



SALES



0001

PRICES ARE TYPICALLY HIGHER THAN WORLD PRICES. DOMSUIZA F.O.B. MILL PRICE NOT COMPETITIVE (a) U.S.

(b) DOMSUIZA LOSS ON EXPORTS BEFORE DUTIES AND FREIGHT ARE ADDED, U.S. FREIGHT CHARGES TO OTHER POTENTIAL MARKETS ARE EQUAL TO OR SMALLER THAN DOMSUIZAS. SOURCE : DATA DEVELOPED IN EXHIBIT

(a) LOS PRECIOS EN EE. UU. SON TIPICAMENTE MAS ALTOS QUE LOS PRECIOS MUNDIALES. LOS PRECIOS DE DOMSUIZA F.O.B. PLANTA NO SON DE COMPETENCIA. (b) PERDIDA DE DOMSUIZA EN EXPORTACIONES ANTES DE ANADIR LOS DERECHOS Y FLETE. LOS CARGOS POR FLETE DE EE. UU. A OTROS MERCADOS POSIBLES SON IGUALES O MENORES DOMSDIZA CARGOS POR FLETE DE QUE LOS DE DOMSUIZA

FUENTE: INFORMACION OBTENIDA DE EXHIBIT E.

DOMSUIZA Schedule of Direct Labor for Producing Veneer for Plywood

Position	Men	Shift.	Men Per Day	Rate Per Day	Coet Per Day RD\$
Truck Driver	ı	2	2	RD\$ 7	RD\$ 14
(dock to plant)	•	•	_		V
Common Laborers					
(log loaders and	4	2	8	4	32
unloaders)	4	2	8	Ä	32
Vat Handlers	•		2	•	16
Log Crane Operator	1	2 2	4		32
Lathe Charger	2		•	10	20
Lathe Operator	Ţ	2	2		32
Reel Operators	2	2	•	8	42
Green Sorters	3	2	6	7	45
Drier Feeders	3	3	9	5	
Drier Unloaders	3	3	9	5	45
Foreman	1	3	3	19	<u> 57</u>
Sub-1	RD\$367				
Fring	92				
Total	direct 1	labor/d	a y		RD\$459
Annu	al Cost				RD\$114,750

compete with their prices. The price of competitive 1/16" veneer is RD\$19.45 per M square feet on the east coast of the United States. The total cost for the Domsuiza veneer is RD\$10 per M feet. Even before United States duties and the shipping costs from the Dominican Republic to the United States are added, it is obvious that Cativo veneer produced at the Domsuiza plant cannot compete. Puerto Rico and other world markets pose the same problem. From the marketing standpoint, importing logs, producing and exporting of veneer from the Dominican Republic would not prove profitable.

Summary

Current Markets

The present market picture for Domsuiza is indeed discouraging. It reemphasizes the impossibility of running Domsuiza profitably under present domestic and international market conditions.

Exhibit N shows this picture in matrix form. As can be observed, there is no market or combination of markets that could profitably support the plant now.

Future Markets

It is not likely that future domestic or international markets will develop in such a way as to make any of these products profitable. At best, domestic markets in the Dominican Republic can be expected to grow by 5 per cent a year. In the case of veneered bagasse board, this would mean a projected market share by 1979 of 3,950 metric tons, or 53 per cent of plant capacity. For plywood it would mean a 1979 market share of 2,119 metric tons or 21 per cent of plant capacity.

Projected export markets are not favorable to Domsuiza, either. Because of its physical properties, the veneered bagasse board produced by the Domsuiza extrusion method will never secure a very large part of any market where

Secondly, Domsuisa produced plywood could not be expected to be price-competitive on future markets given its distant, unreliable source of raw materials and high production costs. Any future rise in world market price levels for wood particleboard or plywood would be accompanied by a corresponding increase in Domsuisa raw material costs, especially for imported logs, and production costs and sales price would rise accordingly.

Summation of Markets and Projected Profitability
for Donisuiza Products

Product	Market	Extent of Market	Domsuiza Price Necessary to Compete	Dornsuive Product Cost at this Operating Level*	Comments
Veneered Bagasse Board	Dominican Republic	2200 M tons	\$276/M	\$288/M @ 29% capacity	Not profitable to produce for this market.
Vence red Bagasse Board	Export	Plant Capacity	¥190/M	\$214/M @ full capacity	Production costs too high. Product inferior quality.
Plyaced	Deminican Republic	1180 M tons	M/05#	\$387/M@ 16% capacity	Market insuf- ficient to justi- fy operations.
Plywood	Export	Plant Ca pa city	\$253/M	\$308/M @ full capacity	Production costs too high. Not competi-tive.
Veneer	Dominican Republic	Negli gible	Ž	ď Ž	Negligible market pre- cludes pro- duction.
Venser	Export	Plant C apa city	\$19.45/M	\$21/M	Production costs too high. Not competi-tive.

*For export markets expenses associated with freight, insurance, wharfage, and import duty would be added to indicate the full degree of non-competitiveness of the Domsuiza product line.

STRATEGIES

As stated previously, the purpose of this study is to determine whether Domsuiza could be revitalized economically. In addition to the original operational plan for which Domsuiza was conceived, three alternative plans were analyzed and are summarized hereinafter:

Original Operational Plan

Domsuiza's original operating plan in 1960 was to produce veneered bagasse board and remanufactured products for both domestic and export markets. This plan has the following disadvantages:

The extrusion process produces a veneered bagasse board which is qualitatively inferior to competitive products.

The cost of producing the boards is too high to compete in export markets.

Domsuiza's bagasse boards cannot capture a large enough share of the domesite market for this kind of product to make production profitable.

Bagasse board is not the cheapest or most desirable housing material available in the Dominican Republic.

Other remanufactured products such as door cores, trays, casings, etc. would not contribute significantly to profits at Domsuiza. Production of the thick cores is not recommended and sufficient markets could not be found for other products.

The extrusion process for bagasse production is now obsolete and over \$1,500,000 is required to rehabilitate and run the facility.

In view of these reasons extracted from the data compiled throughout the study period, and the additional financial burdens associated with the original concept, it has been concluded that the original concept simply cannot be revitalized on an economic basis without substantial and continuous financial subsidy.

Operating Plan A

Since Domsuiza has the equipment necessary for plywood production, it was thought that this might prove a means of revitalizing the plant as a producer of plywood. However, as developed in the sections on Marketing and Economics,

The local plywood market is too small to sustain the plant.

All raw materials must be imported.

Having little local timber, Domsuiza must import logs from distant, unreliable sources.

High raw material and production costs will make Domsuiza plywoods non-competitive in the world market.

Given these formidable constraints, Plan A is also not economically feasible and therefore not recommended.

Operating Plan B

It was thought that the plant might be successfully rehabilitated through producing a combination of possible products. Of the three basic products, two - veneer and plywood - are qualitatively competitive. This comprises the most favorable product mix for the plant.

Because of the overall market picture, Plan B assumes that plywood would be produced for the domestic market (where there is measurable demand) and veneer for export. Part of this projected operation would utilize the otherwise idle extruder lines to produce a small amount of particleboard core material for plywood centers.



EXAMPLE OF OBSOLETE EQUIPMENT-BELT PULLEYS
UN EJEMPLO DE EQUIPO ANTICUADO - POLEAS DE CORREA

This would dispose of the surplus wood wastes generated by the veneer and plywood operations. Again, however, the investigation discloses that,

Domsuiza is located far from a reliable source of raw materials and thus veneer and plywood production will be both expensive and risky.

Plywood markets in the Dominican Republic are too small to justify operations.

Although there is a veneer market in the United States, it is extremely competitive. Large and efficient operations with low raw material costs set price levels. Being removed from both raw materials and the market place, Domsuiza could not compete.

In terms of production, Plan B represents Domsuiza's best hope of success. Because of the cost and market factors, however, it is extremely doubtful that such an operation could survive. It is definitely not recommended.

Plan C (Recommended)

Because of an insurmountable series of adverse factors, it is strongly recommended that a plan of liquidation be implemented. All equipment, buildings, and acreage should be sold or leased. Even though most of the equipment is now outdated it is likely that it can be sold for a higher price than scrap metal. Nonetheless, because of shipping and crating costs it will have to be sold at reduced prices (considerably less than the residual value developed herein). The buildings and land might best be used by another CORDE operation or a private Dominican business seeking more space. Inexpensive leasing could serve as an inducement to the expansion of some key industry. The repairs now necessary could be written off against future rents.

The most expedient method to dispose of the buildings would be to advertise in the Dominican Republic that this property is available.

The best procedure in disposing of the equipment is to sell it all as a unit. This can be done by advertising it in some of the following Trade Journals:

Plywood Magasine (published in the United States).

Forest Industries Magazine (published in the United States).

Wood Magazine (published in the United States).

Board Magasine (published in Great Britain).

Another outlet that may produce results is to list it with used equipment dealers that sell this type of equipment on an "Entire Plant Basis". Some of these dealers are:

Simpson Machinery Sales 7805 NE Sandy Boulevard Portland, Oregon 97213

Tallmann Machinery Company Linnwood, Washington

U. S. Wallboard Machinery Company 1 Whitehall Street New York, New York 10004

Other possibilities are to contact the following firms that are now operating extruder machines in the United States for possible purchase of the equipment:

Firm

American Furniture Company Martins ville, Virginia

Caldwell Furniture
Leonoir, North Carolina

Lane Company Altavista, Virginia

Lenoir Chair #2 Newton, North Carolina

Process

Lanewood (Two)
Horisontal Extruder

Lanswood
Horisontal Extruder

Lanewood Three Horisontal Extruder

Lanewood
Two Horisontal Extruders

Rutherford Furniture Company Rutherfordton, North Carolina

Thomasville Furniture Company Thomasville, North Carolina Lanewood Horisontal Extruder

Lanewood Horisontal Extruder

APPENDIX I

Inventory and Evaluation of:

Equipment

Buildings and Grounds

Miscellaneous Equipment - Not Installed

Source: Physical Inventory, January 1969

DOMSUIZA
Schedule of Direct Labor
for Producing Plywood from Veneer

Position	Men	Shift.	Men Per Day	Rate Per Day	Cost Per Day RD\$
Truck Driver	1	1	1	RD\$ 7	RD\$ 7
Common Laborers					
(veneer loaders					
and unloaders)	8	1	8	4	32
Vencer Jointing					
Operators	4	1	4	8	32
Veneer Edge Gluing					
and Taping Workers	6	1	6	8	48
Lift Truck Operators	2	1	2	8	16
Bagasse Board Core					
and Veneer Lay Up					
Operators	4	1	4	8	32
Plywood (veneer and					
bagasse) Press Op-					
erators	4	1	4	8	32
Trim Saw Operators	5	1	5	5	25
Warehousemen	4	1	4	5	20
Cleanup Man	1	1	1	4	4
Sanding Machiner Op-					
erators	4	2	8	8	64
Foreman	ì	1	1	19	19
Sub-	Tota l				RD\$331
Fring	82				
Total	direct	labor/d	lay		RD\$413
Annu	al Cost				RD\$103,250

DOMSUIZA Equipment Inventory and Evaluation Instructions

"Bake and rework motor" indicates the following procedure.

The motor must be removed, disassembled, stator baked and dipped where found necessary, bearings washed in solvent and relubricated. Motor reassembled, painted, and reinstalled and connected. Gear motors also have the reducer cleaned, inspected, and relubricated.

The power supply and use voltage of all equipment is 440V, 3 phase, 60 cycle, unless otherwise indicated.

A sampling of 70% of all motors in the plant were "meggered" and 10% of these measured unsatisfactory resistance to ground.

Virtually all motors are totally enclosed, fan cooled.

A sampling of 90% of the controls and switchgear in the plant was meggered and 15% of these measured unsatisfactory resistance to ground. Approximately 30% of the feeder cables in the troughs measured unsatisfactory resistance to ground.

Residual value is based on the installed cost including compressed air and water if required for operation unless stated. It includes the electrical installation unless a separate control panel is used.

INVENTARIO DE EQUIPO Y EVALUACION

SHEET_1

SYSTEM OR PRODUCT

NAME OF EQUIPMENT

Ozama
Briquetting Plant

Screw Feeder

FABRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.
Basel, Switzerland

Screw Conveyor

FUNCTION FUNCTION

2

Feed bagasse to grinder

AUXILIARY EQUIPMENT INCLUDED

none

STARTER KW. MOTORS MOTORES

Panel

anei A Varidrive gearmotor

PHYSICAL STATE ESTADO FISICO

Conveyor and chute are in fair condition.

RESIDUAL VALUE VALOR RESIDUAL

RD\$

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Rework the screw feeder and paint the exterior of it.

Bake and rework the motor.

Re-install the drive.

RESTORATION COSTO DE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 2

SYSTEM OF PRODUCT

NAME OF EQUIPMENT

Ozama
Briquetting Plant

Hammermill

EQUIPMENT MANUFACTURER AND IDENTIFICATION FABRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.
Basel, Switzerland

Novorotor 650/500 270 wide X 640 long; Mill pulley 110 diameter Sizing screen approximately 15mm.

FUNCTION

Shred bagasse fiber

AUXILIARY EQUIPMENT INCLUDED

Chute to inlet hopper 14° X 21" approximately 12 ft. long.

STARTER LOCATION UNICACION	KW	MOTORS MOTORES
Panel	37 37	1765 rpm Schorch motor pulley 15-1/2" diameter 1765 rpm Schorch (motor missing)
A	31	1705 Ipin Beneven (moser messag)

PHYSICAL STATE

One motor is missing.
One belt is missing.
Hammermill is in poor condition.

PESIDUAL VALUE VALOR RESIDUAL

RD\$

3200

PARTS MISSING AND RESTORATION REQUIRED. PIEZAS PALTANTES Y RESTAURACION NECESARIA

Supply and install one motor, pulley and 5" wide belt. Partially dismantle machine, clean bearings, inspect rotors and relubricate.

Bake and rework one motor.

Reinstall drive with new belt.

Remove rust and paint.

RESTORATION COST COSTO DE

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 3 HOJA___

SYSTEM OR PRODUCT

Ozama Briquetting Plant NAME OF EQUIPMENT

Bagasse Fan

EQUIPMENT MANUFACTURER AND IDENTIFICATION FABRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd. Basel, Switzerland Fan type VE680-226/60 Fan pulley has 6" diameter and 5" face

FUNCTION FUNCTION

Convey bagasse to dryer

AUXILIARY EQUIPMENT INCLUDED

Duct from hammermill to fan Duct to cyclone.

STARTER XW OCATION KW 26 Panel

A

1775 rpm

MOTORS MOTORES

PHYSICAL STATE ESTADO FISICO

Pipe line to cyclone is in good condition.

Fan is in fair condition.

RESIDUAL VALOR

RD\$

400

PARTE MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Paint fan housing.

Clean and relubricate fan bearings.

Bake and rework motor.

Reinstall drive with new belt.

RESTORATION

RD\$

EQUIPMENT INVENTORY AND EVALUATION

		INVENTARIO	E EQUIPO Y EVALUACION	SHEET 4
SYSTEM OR PRODUCT SISTEMA O PRODUCTO Ozama		<u>uct</u> ucto	NAME OF FOUIP	MENT LUIPO
Briquettir	ng Plan	t	Bagasse Cyclone	
	EQUI	PMENT MANUFA	CTURER AND IDENTIFICATION	<u>.</u>
Pawert Li Basel, Sw		and	Cyclone 3 ft. diameter, Installed over dryer duc- into it.	-
	FUNCTI FUNCIO ator		AUXILIARY EQUIPMENT EQUIPO AUXILIAR Air valve	
STARTER LOCATION JEICACION DEL TONCACO none	KW		MOTORS MOTORES	
Cualana		PHYSICAL ESTADO F	ISICO	PESIDUAL VALOR RESIDUAL RD\$
•		factory condition		300
	PARTS. PIEZAS	MISSING AND R	ESTORATION REQUIRED MESTAURACION NECESARIA	RESTORATIO
Replace	plastic	for windows.		RD\$
Touch up	paint.			

INVENTARIO DE EQUIPO Y EVALUACION

MOVA.

SISTEM OF PRODUCT

Ozama
Briquetting Plant

NOMERE DEL EQUIPO

Air Heater
(Oil Burner with combustion chamber)

Pawert Ltd.
Basel, Switzerland

Oil Burner Uniflow Size 50
Type VSGH Capacity 13-50 GPH
Insulated combustion chamber.

and Uniflow Co.

PUNCTION

Combustion products dry fiber

EQUITO AUXILIAN INCLUIDO

none

STARTER LOCATION DEL

> Panel A

KW

1

MOTORE

HP Type H General Motors

PHYRICAL STATE

Burner is badly corroded.

Replacement of 25% of parts required... Combustion chamber in fair condition. Medial

RD\$

600

PIEZAS PALTANTES Y RESTAURACION NECESAMA

Replace corroded parts of burner.

Completely rework burner, remove rust remaining and coat with aluminum paint.

Replace 7" diameter temperature gauge and 15 ft. of thermocouple wire.

TONATION STATE OF

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

HO.A.

STATEM OF PRODUCT

Osama Briquetting Plant NAME OF SOMEMENT

Dryer Fan

PRINCANTE BEL BOUPO E INDENTIFICACION

Pawert Ltd.
Basel, Switzerland

Fan housing 19" wide 7'-0" diameter. Fan pulley 15" diameter and 6" face.

PUNCTION

Fiber Drying

EQUIPO AUXILIAR INCLUIDO

Ductwork from heater to fan

STARTER KW
CALIGN
RW
Panel 35

Panel A MOTORES

1770 rpm Type K 1051/4 Schorch

PHYRICAL STATE

Insulation in good condition on fan and dryer duct. The motor is missing.

The drive belt is missing.
The fan is in fair condition.

MERIOUAL

RD\$

800

PIEZAS PALTANYES Y RESTAURACION NECESAMA

Clean bearings and relubricate fan.

Furnish and install new motor.

Install drive with new belt.

Remove rust, and paint fan and ducts.

COSTO DE

RD\$

EQUIPMENT INVENTORY AND EVALUATION

SHEET 7 INVENTARIO DE EQUIPO Y EVALUACION HOJA SYSTEM OR PRODUCTO NAME OF EQUIPMENT NOMBRE DEL EQUIPO Dryer Ozama Briquetting Plant FOURPMENT MANUFACTURER AND IDENTIFICATION FABRICANTE DEL EQUIPO E INDENTIFICACION Type 800/1200 Duct 24" diameter Pawert Ltd. The fiber dryer consists of a vertical Basel, Switzerland double walled riser for up and down air flow and a duct to the cyclone. AUXILIARY EQUIPMENT INCLUDED FUNCTION FUNCION EQUIPO AUXILIAR INCLUIDO none Dry fiber STARTER KW MOTORS OCATION KW MOTORES CACION none none MESIDUAL PHYSICAL STATE ESTADO FISICO RD\$ The condition of the dryer ducts is satisfactory. 1200 STORATION PARTE MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA RD\$ Remove rust and paint the ducts. 200

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 8

SYSTEM OF PRODUCT

NAME OF SOUIPMENT

Osama
Briquetting Plant

Dryer Cyclone

FAURICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.
Basel, Switzerland

Cyclone 5 ft. diameter X 15 ft high.

FUNCTION

Air Separator

EQUIPO AUXILIAR INCLUSO

none

STARTER LOCATION USCACION DEL

none

KW

MOTORES

none

PHYSICAL STATE

Cyclone is in bad condition.

VALON

RD\$ 200

PARTE MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Rework 20% of cyclone, and duct.

Replace corroded sections, remove rust and repaint.

RESTORATION

CONTO DE

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 9 HOJA

SISTEM OF PRODUCT

Ozama

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Screw Feeder for Briquettor

Briquetting Plant

EQUIPMENT MANUFACTURER AND IDENTIFICATION FAMILIANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.

12" diameter screw, conveyor, 7 ft long, with adjustable speed motor.

Basel, Switzerland

FUNCTION FUNCION

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

Regulate fiber into Briquettor

none

STARTER KW CATION KW Panel

A

. 75

MOTORS MOTORES

HP variable speed gearmotor

PHYSICAL STATE ESTADO FISICO

Remote operating chain to varidrive is missing.

Dump chute into extruder is in good condition, but requires glass viewing window.

Screwfeeder is in fair condition.

RESIDUAL VALUE VALOR RESIDUAL

RD\$

200

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Remove rust, and paint feeder and chute.

Bake and rework motor.

Replace operating chain.

Reinstall drive.

RESTORATION COST COSTO DE

RD\$

DOMSUIZA Schedule of Supplies, Power and Fuel Requirements for Production of Plywood

Supplies

Experience with similar facilities indicates that production supplies will include the following:

Oil Lathe Knives

Grease Bearings and Belts
Saw Blades Miscellaneous

Cost RD\$160/day
Annual Cost RD\$40,000/yr.

Power

Production of veneer and plywood require 40% of the total plant power as calculated in Schedule 6 of Exhibit E.

Cost = (RD\$5919)(.40) = 2368/mo. Annual Cost = RD\$28,411

<u>Fuel</u>

From experience at similar plywood mills it is expected that the trim and miscellaneous waste will supply ample fuel for process heating, (No heat required in building).

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 10

SISTEMA O PRODUCTO

Ozama Briquettor Plant NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Bagasse Briquettor

FABRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd. Basel, Switzerland Glomera Brikettpressen Type 154 Special No. 077/60 10" drive pulley X 14" face Flywheel 55" diameter X 13-1/2" face Drive 70" c-c

FUNCTION FUNCION

To produce briquettes

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAN INCLUIDO

Cooling Rods 30 ft long - 4 rods.

STARTER	KW	MOTORS
DEL	50	885 rpm 76 Amp Type KWR 1351/8M Panel A - (Drive Motor)
Panel A		Panel B - (Operators' Controls)
Panel B		Panel B - (Operators Consucts)

PHYSICAL STATE
PHYSICAL STATE ESTADO FISICO
Mildly corroded inside of crank case. Briquettor is in fair condition.

Cooling rods are in good condition.

l.	VALLE
ľ	VALOR
ı	MESIDUAL
l	
ı	RD\$

RESIDUAL

8000

PARTS MISSING AND RESTORATION REQUIRED. PIEZAS PALTANTES Y RESTAURACION NECESARIA

Replace extruder die. Clean and flush crank case of all rust. Clean and flush hydraulic system. Bake and rework motor. Reinstall drive with new belt.

STORATION

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET.

YSTEM OR PRODUCT SISTEMA O PRODUCTO NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Electrical Panel A

Ozama

Briquetting Plant

EQUIPMENT MANUFACTURER AND IDENTIFICATION FABRICANTE DEL EQUIPO E INDENTIFICACION

Panel was built up from manufactured parts by installation contractor. It consists of a steel rack with safety switch and starter positions in addition to the conduit run to the motors.

FUNCTION FUNCION

Supply power to motors.

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

Conduit to motors.

STARTER	
LOCATION	
UNICACION	
DEL	

KW KW

MOTORS MOTORES

Motors are listed with mechanical equipment

Near hammermill

PHYSICAL STATE ESTADO FISICO

VALUE VALOR RESIDUAL

Starters and switches have been removed from panel.

RD\$

RESIDUAL

100

PARTS MISSING AND RESTORATION REQUIRED PIEZAS FALTANTES Y RESTAURACIÓN NECESARIA

Install gutter box near bottom rack.

Rework conduit runs where necessary to feed into lower gutter.

Install safety switches and starters between upper and lower gutters.

Wire panel and connect motor runs.

All motor runs and control wires measure "good resistance to ground".

RESTORATION COST COSTO DE RESTAURACION

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 12

SISTEMA O PRODUCTO

Ozama Briquetting Plant NAME OF EQUIPMENT

Electrical Panel B

FABRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.
Basel, Switzerland

Panel contains electrical relays, switches, electrical, and hydraulic controls for the Briquettor.

 $\frac{1 - 6^{\circ} \text{ gauge}}{1 - 6^{\circ} \text{ gauge}} = \frac{0 - 25 \text{ Kg/cm}^2}{0 - 250 \text{ Kg/cm}^2}$

FUNCTION

Briquettor
Operator's Control

EQUIPO AUXILIAR INCLUDED

Hydraulic lines to the briquettor.

STARTER LOCATION DEICACION DEL WONCADOR

none

KW

MOTORES

Motors are listed with mechanical equipment.

PHYSICAL STATE ESTADO FISICO

Electrical controls in bad condition.

Panel is dirty and rusty, but in fair condition.

MESIDUAL VALUE VALOR MESIDUAL

RD\$

PARTS MISSING AND RESTORATION REQUIRED
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Rebuild the electrical controls inside panel.

Provide dirt seal for hydraulic operating handle.

Reroute hydraulic lines in a safe position.

RESTORATION COST

COSTO DE

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 13

SISTEMA O PRODUCTO

Ozama

NAME OF EQUIPMENT

Oil Storage and Pumping Station

Briquetting Plant

FARRICANTE DEL EQUIPO E INDENTIFICACION

Manufacturer unknown Tank 17 ft. diameter X 14 ft. high Bulk unloading pump 10 HP 5" diameter

FUNCTION

Store and pump Bunker "C" oil EQUIPO AUXILIAR INCLUIDO

none

STARTER LOCATION USICACION DEL CTANÇADOR

Panel A KW

7.5

Pump

MOTORES

PHYSICAL STATE ESTADO FISICO RESIDUAL VALUE VALOR RESIDUAL RD\$

Tank is badly corroded.

Unloading pump is beyond repair.

300

PARTS MISSING AND RESTORATION REQUIRED
PIEZAS FALTANTES Y RESTAURACION NECESARIA

RESTORATION COST COSTO DE RESTAURACION

Tank: Check plate thickness,

Install new top plate,

Replace outlet nipple and pipe line to burner.

Pump: Bake and rework motor and install on new pump.

900

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

HOJA.

SYSTEM OF PRODUCT

NAME OF SOUIPMENT NOMBRE DEL EQUIPO

Barahona Briquetting Plant Screw Feeder to Hammermill

FOURPMENT MANUFACTURER AND IDENTIFICATION FABRICANTE DEL EQUIPO E INDENTIFICACION

Webster

Screw Feeder

FUNCTION

Regulate flow to the hammermill.

AUXILIARY CONFINENT INCLUDED

STARTER LOCATION UNICACION DEL KW

MOTORES

Panel

3/4 HP cone drive

PHYSICAL STATE ESTADO FISICO

The drive is in bad condition.

The wiring of the motor is in bad condition.

VALUE INCLAL

RD\$

100

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESAMA

Remove rust and paint feeder.

Repair the wiring to the motor.

Replace the cone drive.

Bake and rework motor.

COSTO DE

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

HOUA 15

SYSTEM OF PRODUCT

NAME OF SOUIPMENT NOMBRE DEL EQUIPO

Barahona Briquetting Plant Rotary Feeder

FABRICANTE DEL EQUIPO E INDENTIFICACION

Manufacturer unknown

The rotary feeder is installed in the duct to the hammermill and allows the fiber to pass through.

FUNCTION

Air lock for hammermill

AUXILIARY EQUIPMENT INCLUDED

Duct from screw feeder

STARTER
LOCATION
LOCATION
CLICATION
Panel

A

KW

MOTORES

1 HP G.E.

PHYSICAL STATE

Feeder drive is in bad condition.
Feeder is in fair condition.

MESIDUAL VALUE VALOR MESIDUAL

RD\$

150

PARTS MISSING AND RESTORATION REQUIRED. PIEZAS PALTANTES Y RESTAURACION NECESARIA

Replace wiring to the motor.

Replace drive to feeder.

Bake and rework motor.

OSTO DE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET_16___

SYSTEM OR PRODUCT

Barahona

Briquetting Plant

NAME OF EQUIPMENT

Hammermill.

EQUIPMENT MANUFACTURER AND IDENTIFICATION FABRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.

Basel, Switzerland

Novorotor 650/500 221/60 Type K 27" wide X 64" long mill.

FUNCTION

Shred bagasse fiber.

AUXILIARY EQUIPMENT INCLUDED
EQUIPO AUXILIAR INCLUIDO

Chute to hammermill inlet.

STARTER LOCATION	KW	MOTORS MOTORES
USICACION		MOTORES

DEL AVVANCADO Panel

Anei

37 37 1765 rpm 3 phase 440V 60 cycle Schorch 1765 rpm 3 phase 440V 60 cycle Schorch

PHYSICAL STATE ESTADO FISICO

The hammermill is in fair condition.

The drive belt is missing.

RESIDUAL VALUE VALOR RESIDUAL

RD\$

4000

PARTS MISSING AND RESTORATION REQUIRED PIEZAS FALTANTES Y RESTAURACION NECESARIA

Remove rust on hammermill and chute and paint equipment. Bake and rework motors.

Reinstall drives with new belts.

RESTORATION COST

COSTO DE RESTAURACION

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 17

SYSTEM OR PRODUCT.

NAME OF EQUIPMENT

Barahona
Briquetting Plant

Bagasse Fan

FARRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.

Type VF 680-220/60

Basel, Switzerland

FUNCTION FUNCTION

Convey bagasse to dryer

AUXILIATY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

Duct from hammermill to fan. Duct to cyclone.

STARTER	
LOCATION	
DEL	1
MINICADO	ļ
Danel	ı

Panel A KW

26

MOTORES

MOTORS

1770 rpm Schorch

PHYSICAL STATE ESTADO FISICO

Fan and ducts are in fair condition. The drive belt is missing. RESIDUAL VALUE VALOR RESIDUAL

RD\$

400

PARTS MISSING AND RESTORATION REQUIRED PIEZAS PALTANTES Y RESTAURACION NECESARIA

Inspect and repair electrical connection to motor.

Remove rust, and paint the equipment.

Clean and relubricate fan bearings.

Bake and rework motor.

Reinstall drive with new belt.

Replace corroded portion of duct.

RESTORATION COST COSTO DE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

HOJA 18

SYSTEM OF PRODUCT SISTEMA O PRODUCTO

Barahona Briquetting Plant NAME OF FOUIPMENT

Bagasse Cyclone

FARRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.
Basel, Switzerland

The cyclone is 3 ft in diameter X 12 ft high.

It is installed over the dryer duct and

feeds into it.

FUNCTION FUNCION

Air Separator

EQUIPO AUXILIAR INCLUIDO

none

MOTORS

MOTORES

STARTER LOCATION USCACION OLL TONICACO none KW

none

PHYSICAL STATE ESTADO FISICO

Cyclone is in fair condition.

RESIDUAL VALUE VALOR RESIDUAL

RD\$ 300

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Remove rust and paint.

RESTORATION COSTO DE

RD\$
200

INVENTARIO DE EQUIPO Y EVALUACION

HOJA.

SISTEMA O PRODUCTO

Barahona

Briquetting Plant

NAME OF FOURMENT NOMBRE DEL EQUIPO

Air Heater
With Oil Burner and
Combustion Chamber

FABRICANTE DEL EQUIPO E INDENTIFICACION

Uniflow

Oil Burner Size 30 Type 3 SGH 13 to 50 gallons/hr.
Minneapolis-Honeywell controls.

FUNCTION

Combustion products dry fiber.

KW

KW

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

none

STARTER LOCATION USICACION DEL STANCADO

Panel A MOTORES MOTORES

1 HP Type H General Motors

PHYSICAL STATE ESTADO FISICO

Combustion chamber is in fair condition. Burner controls are in poor condition. RESIDUAL VALOR RESIDUAL

RD\$

700

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Remove rust, and paint equipment. Replace burner controls.

COST COSTO DE RETAURACION

RD\$

DOMSUIZA Schedule of Indirect Labor and Administrative Expense for Plywood Production

Indirect Labor	Cost Per Day
Manager (50% allocation)	RD\$19
Quality Control (Chief plus Asst.)	20
Superintendent	24
Sub-total	RD\$63
Fringe Benefits 25%	16
Total	RD\$79/day
Annual Cost	RD\$19,750
Administrative Expense	
Manager (50% allocation)	RD\$19
Accountant	21
Clerks (3) at RD\$9 each	27
Typist	8
Sub-total	RD\$75
Fringe Benefits at 25%	19
Total	RD\$94/day
Annual Cost	RD\$23,500

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 20 HOJA.

YATEM OR PRODUCTO

Barahona **Briquetting Plant** NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Dryet Fan

FOURMENT MANUFACTURER AND IDENTIFICATION FABRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.

Basel, Switzerland

Fan Type VE 1200-223/60

FUNCTION FUNCION

Convey fiber through dryer.

MIKILLARY EQUIPMENT INCLUDED EQUIPO AUXILIAN INCLUIDO

Duct work from heater to fan.

STARTER KWL KW 35 Panel

Α

MOTORS MOTORES

1770 rpm 58 amp Schorch

PHYSICAL STATE ESTADO FISICO

Fan and duct are in fair condition.

RESIDUAL ALUE ALOR WESIDUAL

RD\$

800

EZAS FALTANTES Y RESTAURACION NECESARIA

Remove rust, and paint equipment.

Bake and rework motor.

Reinstall drive with new belt.

Clean bearings and lubricate.

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 21

SYSTEM OR PRODUCTO

NAME OF FOURMENT NOMBRE DEL EQUIPO

Barahona
Briquetting Plant

Dryer Duct and Cyclone

FAMICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.
Basel, Switzerland

Type 800/1200 Duct 24" diameter.
Cyclone 5 ft. diameter X 15 ft. high.

FUNCTION FUNCION

Dry fiber

AUXILIARY FOUR PMENT INCLUDED

none

STARTER LOCATION USICACION DEL

none

KW

MOTORES

none

PHYSICAL STATE ESTADO FISICO

Some of the duct is corroded away. General condition is poor.

RESIDUAL VALOR RESIDUAL

RD\$

1000

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Replace corroded sections of dryer duct.

Remove scale and rust, and paint duct and cyclone.

COSTO DE

RD\$

EQUIPMENT INVENTORY AND EVALUATION

22

300 (2)

		INVENTARIO D	E EQUIPO Y EVALUACION	SHEET 22 HOJA
SYSTEM OR PRODUCT SISTEMA O PRODUCTO Barahona Briquetting Plant		<u>VCT</u> UCTO	NAME OF FOUR NOMBRE DEL EQ Screw Feeders to Briq (Two Units)	LUIPO
			CTURER AND IDENTIFICATION	<u> </u>
Manufactu unknown	rer			
			•	
	FUNCTI		AUXILIARY EQUIPMENT	
Regulate f	FUNCIO low to 1		EQUIPO AUXILIAR Ducts from cyclone to b	,
STARTER LOCATION UNICACION	KW		MOTORES	
Panel A	2 2	Gear motor. Gear motor.		
		PHYSICAL ESTADO FI		RESIDUAL VALUE VALOR RESIDUAL
Both feede Ducts are		in fair condition condition.	on.	RD\$
				500 (2)
			STORATION REQUIRED	RESTORATION COSTO DE
Remove rust and paint equipment. Bake and rework motors.		nt.	COSTO DE RESTAURACK R D\$	

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 23

SYSTEM OR PRODUCT SISTEMA O PRODUCTO

NAME OF SOUIPMENT NOMBRE DEL EQUIPO

Barahona
Briquetting Plant

Briquettor

FABRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.
Basel, Switzerland

Glomera Brikettpressen (Double Machine)
Flywheel drive pulley 55" X 15" face.
Machine is for 2-3/4" diameter briquette.

FUNCTION FUNCION

To produce briquettes

AUXILIARY EQUIPMENT INCLUDED

Operator's control panel.

•	TARTER
LC	CATION
U	ICACION
D	ICACION L
	MINICADO

Panel A KW

75

MOTORES

885 rpm 129 Amp. Schorch pulley 10" diameter 15" face.

PHYSICAL STATE

Briquettor is in good condition.

The drive belt is missing.

Electrical-Hydraulic operator's panel is in bad condition.

MESIDUAL VALUE VALOR MESIDUAL

RD\$

10,000

PARTS MISSING AND RESTORATION REQUIRED. PIEZAS FALTANTES Y RESTAURACION NECESAMIA

Clean and paint briquettor. Replace operator's panel.

Bake and rework motor.

Reinstall drive with a new belt.

COSTO DE

RD\$

3,000

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 24

SYSTEM OR PRODUCTO

NAME OF EQUIPMENT

Barahona Briquetting Plant Oil Storage and Pumping Station

FABRICANTE DEL EQUIPO E INDENTIFICACION

Manufacturer unknown 2-Tanks: 6 ft diameter X 18 ft long.

FUNCTION

Store Bunker "C" oil

AUXILIARY EQUIPMENT INCLUDED

Oil line to burner.

MOTORS

MOTORES

1	TARTER
	CATION
Ų	ICACION L
1	L

Panel A KW

7.5 Pump motor.

PHYSICAL STATE ESTADO FISICO

The tanks are 60% buried in soil, but appear to be in fair condition.

RESIDUAL VALOR

RD\$

600

PARTS MISSING AND RESTORATION REQUIRED. PIEZAS PALTANTES Y RESTAURACION NECESAMIA

Inspect pump and repair if needed.

Bake and rework motor.

Inspect Condition of tanks under fill.

Remove rust and paint tanks.

CONTO DE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 25

SISTEMA O PRODUCTO

NAME OF EQUIPMENT

Barahona Briquetting Plant Electrical Panel A

FABRICANTE DEL EQUIPO E INDENTIFICACION

Manufacturer unknown

Panel A contains switches, starters, push buttons, etc., for motor control.

FUNCTION

Supply electric power to motors.

AUXILIARY EQUIPMENT INCLUDED

Electrical wiring to motors and controls.

STARTER	
LOCAT	
DEL	ION
	ADOI

KW.

MOTORES

Panel A Motors are listed with mechanical equipment.

PHYSICAL STATE

The panel is in fair condition.

The conduit is satisfactory, but some wiring requires replacing.

MESIDUAL VALUE VALOR MESIDUAL

RD\$

400

PARTS MISSING AND RESTORATION REQUIRED. PIEZAS PALTANTES Y RESTAURACION NECESAMIA

Remove rust, and paint panel. Replace wiring required. CO TO DE

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 26

SYSTEM OF PRODUCT

Bagasse Particleboard

Line A

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Belt Conveyor

FABRICANTE DEL EQUIPO E INDENTIFICACION

Stohr Transportanlagen Offenbach, Germany

#N9307A-80AA cleated rubber belt 18" wide X 8.0m c-c. Idlers 1.0m c-c. Portable unit.

FUNCTION PUNCION

UXILLARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

Briquette Conveyor

none

STARTER **KM** MOTORS MOTORES

Panel #2

1/2

Gearmotor, Schorch

PHYRICAL STATE ESTADO FISICO

Conveyor in fair condition.

Equipment is rusty.

RD\$

300

TE MISSING AND RESTORATION

Bake and rework motor/reducer.

Lubricate belt idlers.

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 27

SYSTEM OR PRODUCT SISTEMA O PRODUCTO NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Bagasse Particleboard

Hammermill

Line A

FABRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.
Basel, Switzerland

Hammermill/Novorotor #605/500 twin mill Mill pulleys 27" wide by 64" long, 15" dia.

FUNCTION

AUXILIARY EQUIPMENT INCLUDED

Shred briquettes

Inlet chute, suction funnel

STARTER		MOTORE MOTORES	
DEL	37 3 7	Motor 1770 rpm, Schorch motor pulleys 15" dia. Motor 1770 rpm, Schorch	
Panel #2			

PHYSICA	LSTATE
ESTADO	FISICO

RESIDUAL VALUE VALOR RESIDUAL

Equipment in good condition, except rusty.

RD\$

PARTS MISSING AND RESTORATION REQUIRED. PIEZAS PALTANTES Y RESTAURACION NECESAMIA

Remove rust and paint, install new flat belt. Bake and rework motors. Inspect and renew screen if required. Install pulleys, and flat belts. Fabricate and install belt guards.

COSTO DE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 28

SYSTEM OF PRODUCTO

Bagasse Particleboard

Line A

NAME OF EQUIPMENT

Bagasse Fan

FAMICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.

7-1/2" dia. flat pulley - 5" wide

Basel, Switzerland

FUNCTION

Convey bagasse from hammermill to dryer

EQUIPO AUXILIAR INCLUIDO

7.5" dia. duct from hammermill to fan.

12" dia. pipe to cyclone

MOTORS

MOTORES

STANIEN	ı
LOCATION	l
UNICACION	l
DEL	l
AFFANCADOR	l
Panel	l
шэ	ı
#2	ı
	l

KW KW 22

1775 rpm Schorch

8" dia. flat pulley
5" wide on motor

PHYSICAL STATE

Bullet hole in transition section of fan. Hole in pipe to cyclone. Equipment is rusty. Mechanical condition fair.

RESIDUAL VALUE VALOR RESIDUAL

RD\$

350

PARTS MISSING AND RESTORATION REQUIRED PIEZAS FALTANTES Y RESTAURACION NECESARIA

5" wide drive belt missing. Supply missing belt.

Repair holes in transition section of fan and in pipe to cyclone. Remove rust and paint machine and ducts.

Bake and rework motor. Install drive. Fabricate and install belt guard.

RESTORATION COST

COSTO DE RESTAURACION

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 29

SYSTEM OF PRODUCT

Bagasse Particleboard

Line A

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Air Heater (Oil burner and combustion chamber)

FABRICANTE DEL EQUIPO E INDENTIFICACION

Burner G. Johnson, Oakland, California

Burner type BH-2

Chamber Oertli A. G. Dubendorf Zurich, Switzerland Chamber type AR3 No. 257 Fan 3800 Cu. meter/Hr

FUNCTION

2.2

1/16HF

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

Fiber drying

Panel #21 none

STARTER	KW	MOTORS
PICACION	KW	MOTORES
YTTINICADOR		

1780 rpm

PHYSICAL STATE ESTADO FISICO

Combustion chamber not insulated Burner too small for job. Combustion chamber in fair
condition.

YALUE YALOR YALOR MESIDUAL

RD\$

500

PARTS MISSING AND RESTORATION REQUIRED. PIEZAS PALTANTES Y RESTAURACION NECESARIA

Replace missing dryer temperature controls, supply and install insulation for combustion chamber. Install and connect adequate oil burner. Remove rust and paint exposed parts.

RESTORATION COST COSTO DE RESTAURACION

RD\$

DOMSUIZA Schedule of Depreciation of Buildings and Equipment for Producing Plywood

	Buildings	
	Residual Value	(+) Missing Equipment
Veneer Line	RD\$12,750	RD\$24,600
Layup Section	21,250	41,000
Total	RD\$34,000	RD\$65,600
Total Residual Value Depreciation - Buildi	+ Needed Improvem	nents = \$99,600 ght Line = 4,980/yr.

	Eq	Equipment	
	Residual Value	(+) Missing Equipment	
Veneer Line	RD\$50,650	RD\$139,000	
Layup Section	24,050	205,700	
Total	RD\$74,700	RD\$344,700	
Total Residual Val Depreciation - Equ	lue + Needed Improven Lipment 10 years Strai	nents = \$419,400 ght Line= RD\$41,940/yr.	
	quipment and Improve		

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 30

SYSTEM OR PRODUCT SISTEMA O PRODUCTO

Bagasse Particleboard

Line A

NAME OF EQUIPMENT

Oil Pre-heater

FABRICANTE DEL EQUIPO E INDENTIFICACION

Oertli A. G.

400 liter

Dubendor, Zuirch, Switzerland

P.O. No. 11640

FUNCTION

KW

Pre-heat bunker "C" oil

AUXILIARY EQUIPMENT INCLUDED
EQUIPO AUXILIAR INCLUIDO

none

STARTER LOCATION DEICACION DEL

Panel

#21

MOTORES

Note: Pre-heater has an 8KW electric heater

PHYSICAL STATE ESTADO FISICO

No pipe to oil storage tank. Gauges and control parts missing and broken. Pre-heater dirty, rusty, and in bad condition.

RESIDUAL VALUE VALOR RESIDUAL

RD\$

350

PARTS MISSING AND RESTORATION REQUIRED PIEZAS PALTANTES Y RESTAURACION NECESANIA

Rework entire pre-heater. Remove rust and paint. Replace broken and missing gauges and controls. COSTO DE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 31

SYSTEM OR PRODUCT SISTEMA O PRODUCTO NAME OF EQUIPMENT

Bagasse Particleboard

Bagasse Cyclone

Line A

Basel, Switzerland

FABRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.

4 ft. diameter (for bagasse fan)

FUNCTION

AUXILIARY EQUIPMENT INCLUDED

Air separator

Air valve

STARTER LOCATION USICACION DEL KW KW

MOTORES

none

PHYSICAL STATE ESTADO FISICO

Cyclone has bullet holes in it. Cyclone is rusty, but in fair condition.

RESIDUAL VALUE VALOR RESIDUAL

RD\$

150

PARTS MISSING AND RESTORATION REQUIRED PIEZAS FALTANTES Y RESTAURACION NECESARIA

Repair bullet holes in cyclone. Remove rust and repaint cyclone. Repair holes in air valve. Remove rust and repaint air valve.

RESTORATION COST COSTO DE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 32

HOJA-

SYSTEM OF PRODUCT

Bagasse Particleboard

Line A

NAME OF EQUIPMENT

Dryer Fan

FARRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.
Basel, Switzerland

Fan pulley 15" dia. Drive 28" c-c

FUNCTION FUNCION

Dry fiber

AUXILIARY EQUIPMENT INCLUDED

Ductwork from air heater to fan

STARTER LOCATION UNICACION DEL KW

37

1765 rpm

MOTORES

Motor pulley 8.5 in dia.

PHYSICAL STATE

Fan and duct are rusty, otherwise in good condition.

PESIDUAL VALUE VALOR RESIDUAL

RD\$

700

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Supply missing 5" flat belt. Bake and rework motor. Install drive. Remove rust and paint fan.

COST

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

HOMA

SYSTEM OR PRODUCTO

NAME OF SOURMENT NOMBRE DEL EQUIPO

Bagasse Particleboard

Dryer

Line A

FABRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.

Type 800/1200

Basel, Switzerland

Duct 24" diameter

The fiber dryer consists of a vertical double walled riser for up and down air flow and a

duct to the cyclone.

FUNCTION

AUXILIARY EQUIPMENT INCLUDED

Dry fiber

none

STARTER LOCATION DECACION DEL MICACOR KW

MOTORS

none

none

PHYSICAL STATE ESTADO FISICO YALON

Several bullet holes are evident and the duct is rusty.

RD\$

Dryer is in fair condition.

1000

PARTS MISSING AND RESTORATION REQUISED.
PIEZAS FALTANTES Y RESTAURACION NECESAMIA

Repair bullet holes, remove rust and repaint dryer.

TO DE LOS

RD\$

ROUPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 34

SISTEMA O PRODUCTO

Bagasse Particleboard

Line A

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Dryer Cyclone

FOUR PRINT MANUFACTURER AND IDENTIFICATION VALUE OF THE PRINT OF THE P

Pawert Ltd.
Basel, Switzerland

Model HZ42 83th diameter

PUNCION

Dryer air separator

EGUIFO AUXILIAR INCLUDED

nune

MEADINE MENCACO

none

KW

none

MOTORES

PHYSICAL STATE

There are shell holes in the cyclone, and it is in bad condition.

YALON

RD\$

300

PREZAS PALTANTES Y RESTAURACION NECESARIA

Repair shell holes in cyclone. Remove rust, and repaint cyclone. Add a dust collector to air discharge to prevent pollution.

CONTO DE CO

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 35

SYSTEM OR PRODUCTO

Bagasse Particleboard

Line A

NAME OF EQUIPMENT

Vibrating Screen

FABRICANTE DEL EQUIPO E INDENTIFICACION

Frambs and Freudenberg West Germany

4' X 7" width 11' X 0" length 7' X 7" height

FUNCTION

Separate fiber from pith

EQUIPO AUXILIAR INCLUDED

Discharge duct and flex connector at screen feed.

•	TARTER
1	CATION
6	CACION
	MINCADO

KW KW 7.5

MOTORS

PHYSICAL STATE ESTADO FISICO

Screen mesh is in bad condition. Flex connector at screen feed is in bad condition. Screener generally in good condition.

VALOR VALOR

RD\$

800

PARTE MISSING AND RESTORATION RECUESAMA

Repair and paint screen frame structure. New screen mesh is required. Replace flex connector. Replace V-belts for drive. Bake and rework motor and install drive. Remove rust and paint screen.

CONTO DE

RD\$

SOLIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 36 HOJA

SISTEMA O PRODUCTO

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Bagasse Particleboard

Fines Fan

Line A and Line B

FABRICANTE DEL EQUIPO E INDENTIFICATION

Pawert Basel, Switzerland 20 cm 8" discharge duct Fan pulley 8" dia.

FUNCTION FUNCION

Convey fines and pith to boiler

EGUIFO AUXILIAR INCLUDO

Connecting ducts to screen and to cyclone.

STARTER Panel

17

10 TOBS MOTON

1700 rpm Schorch

Motor pulley 6-1/2" dia.

PHYRICAL STATE ESTADO FISICO

Fan serves lines A and B through a "Y" inlet duct.

RD\$

Fan is shell damaged beyond repair.

Value of spare fan to be used (see note below).

150

MOUTABOTERS ONA DIM

Replace fan. Bake and rework motor. Install drive. Repair holes in ducts. Remove rust and paint ducts.

Note: There is a spare fan which could be used.

RD\$

If used, remove rust and repaint.

INVENTARIO DE EQUIPO Y EVALUACION

HOJA 37

SISTEMA O PRODUCTO

Bagasse Particleboard

Line A

NAME OF FOLIPMENT NOMBRE DEL EQUIPO

Vibrating Feeder

FOUNPMENT MANUFACTURER AND IDENTIFICATION FABRICANTE DEL EQUIPO E INDENTIFICACION

Jöst GMbH Munster, Westfield, Germany No. MRI 933 450/300 - 15.00

FUNCION

Proportion fiber feed to mixer

EGUITO AUXILIAN INCLUSO

Temporary chute to mixer at feeder discharge.

STARTOR

Panel

Pan #4 MO1

4.3 Amp 440V 1 phase

PHYRICAL STATE

Feeder is in good condition. Chute is satisfactory.

ALC:

RD\$

PRITAL MACHIS AND RESTORATION SECURISION PROVINCE

Remove rust and paint feeder. Add dust cover and connect it to dust collector.

TO DE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 38

SISTEMA O PRODUCTO

NAME OF FOUIPMENT

Bagasse Particleboard

Mixer Station

Line A

FABRICANTE DEL EQUIPO E INDENTIFICACION

Draiswerke GMbH Mannheim, Germany

Equipment includes Mixer type KFSP 319,99"L. X 28" dia. with batch weighing and air cyl. at intake; resin metering pump; type LR mixing tank 1.1m dia. X 52" high with pump and batch paddle mixer (5HP vertical drive); batch mixer tank 27" dia. X 31" high with propeller agitator; hot water circulating pump .55 KW and heat exchanger tank 8" dia. X 36" high.

FUNCTION

Preparation of resins
Addition of resin to fiber

EQUIPO AUXILIAR INCLUIDO

See equipment above.

STARTER	KW	MOTORS.	
HICACION	5	(tank a gitator) Schorch gear motor	0.55 KW
MINCADO	10	(mixer drive)	(hot water cir-
Panel	1/4HP	(resin metering pump)	culation pump)
		(mixer discharge) 3. lA resin transf	fer pump
"	3/4HP	(batch mixer propeller type)	

PHYRICAL STATE

Mixer station was used and not cleaned properly.

Hardened resin clings to many surfaces.

Other than being dirty, machinery and tanks are in fair condition.

MESIDUAL VALOR NESIDUAL

RD\$

4000

PIEZAS FALTANTES Y RESTAURACION NECESARIA

This equipment requires mechanical reconditioning and a thorough cleaning. Remove rust, and paint all equipment. Bake and rework all motors. Remove rust on V-pulleys and replace V-belts. Install all drives.

CONTO DE LOS

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

HOJA.

SYSTEM OF PRODUCT

NAME OF EQUIPMENT

Bagasse Particleboard

Extrusion Machine (press)

Line A

Basel, Switzerland

FABRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.

Extrusion machine platens 52" long X 120", heated by superheated water. Motor pulley 5"dia X 12" face Machine pulley 52" dia. 11" wide belt, drive 104" c-c, Machine has

variable speed drive.

FUNCTION

Fiber board extrusion

AUXILIARY SOUPMENT INCLUISO
EQUIFO AUXILIAR INCLUIDO

Vent heed 60" X 75" and 24" duct to fan above.

STARTER LOCATION KW

MOTORES

7.2/15/25/31.4 KW 350/750/1200/1500 rpm Type RS 4521/6 Schorch meter, variable speed, 440 volt 41 amp. Note: the "M-G" set for this motor is written up in the Electrical Section of the report.

Panel #31

PHYSICAL STATE

Machine is rusty, but in fair condition.

Hot water piping connection is missing.

VALUE VALORI MESIDUAL

RD\$

15,000

PIEZAS PALTANTES Y RESTAURACION NECESARIA

Make a complete internal inspection of the machine. Clean, and inspect crankshaft of extruder. Re-lubricate and fill crankcase with lube oil. Add permanent hot water connections. Remove rust, and paint extruder and hood. Bake and rework motor and install drive. Supply new belt.

COLTO DE

RD\$

Schedule of Working Capital New Capital Requirements Interest Expense and Insurance Expense for Producing Plywood

Estimate of Average Working Capital

Inventories (Logs and Glue) - 1 1/2 mo. Accounts Receivable Financing (2 mo.) Miscellaneous	RD\$ 285,000 436,000 30,000		
Wild Contains of the contains	RD\$ 751,000		
New Capital Requirements			
Building Restoration + Missing Equipment Equipment Restoration + Missing Equipment Working Capital	RD\$ 65,600(Schedule 6) 344,700(Schedule 6) 751,000(a)		
Total New Capital	RD\$1, 161, 300		
Interest Expense at 7% Total - Buildings, Equipment and Improve-	RD\$ 81,291 ^(a)		
ments Fire and Liability Insurance @ 2%	519,000(Schedule 6) 10,380		

(a) For production at less than 100 capacity, working capital is reduced proportionately and the interest associated with this reduction in working capital is also reduced.

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 40

SISTEM OF PRODUCT

Bagasse Particleboard

Line A

NAME OF SOURMENT NOMBRE DEL EQUIPO

Extruder Ventilator Fan

FOLIPMENT MANUFACTURER AND IDENTIFICATION PASHICANTE DEL EQUIPO E INDENTIFICACION

K. Merz Maschinenfabrik

Axial Fan 60° dia. 60° high

PUNCTION

Extruder vent fan

EQUIPO AUXILIAR INCLUED

mare

(dust included with extrader)

STARTER LOCALISM

KW KW

4

MOTORES

840 rpm Banknecht

ESTADO PISICO

Equipment in fair condition.

RD\$

400

PIEZAS PALYANYES Y NESTAURACION NECESAMA

Remove rust, and paint fan and outside duct.

Bake and rework motor and re-install fan impeller.

TORATION SETAL RACION

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET_41

SISTEMA O PRODUCTO

NAME OF EQUIPMENT

Bagasse Particleboard

Cut-off Saw

Line A

PARTICANTE DEL EGUIPO E INDENTIFICACION

Schweighouse West Germany Equipment includes a board saw, saw traverse drive, with a P.I.V. drive, and a pneumatically actuated saw carriage.

PUNCTION

EQUIPO AUXILIAN INCLUIDO

Cut off extruded board to desired lengths.

	- 1				_	
, ,		*	*/	5	ٺ	Ţ
			Ì		V.	Ŧ

KW

7.5

MOTORES

3450 rpm 8 amp Saw Motor

2.3 amp 1800 rpm Saw Traverse Drive (gear motor)

PHYSICAL STATE

Militar

Machine is in good condition, but with a little rust.

RD\$

PREZAS PALYANTES Y RESTAURACION NECESARIA

Run-out table and stacking equipment are missing. Supply and install this machinery. Drain, clean, and refill P.I.V. gear box. Bake and rework motors and motor/reducer. Install drives. Connect plant compressed air to machine. Rework pneumatic cylinders.

TO PE

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 42

SISTEMA O PRODUCTO

Bagasse Particleboard

Line A and B

NAME OF EQUIPMENT

Electrical Panel #3
Distribution board for extrusion press
area

FABRICANTE DEL EQUIPO E INDENTIFICACION

Siemens - Schuckertwerke Erlangen, Germany

PUNCTION

EQUIPO AUXILIAR INCLUIDO

Fuse gear

STARTER LOCATION LOCATION Menoroo KW

MOTORES

Motors are listed with mechanical equipment

PHYSICAL STATE ESTADO PISICO

Panel 150 cm wide, 200 cm high, 45cm deep metal clad

Doors close well. Condition of equipment is good.

ALC: NA

RD\$

500

PREZAS PALTANTES Y RESTAURACION NECESARIA

12-100A fuses, 6-60A fuses, 21-25A fuses, and 2 extruder vent fan cable runs are missing. Install fuses and cable runs. Identify and replace grounded cable runs. Remove rust and paint panel.

TOPATION

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

HOJA-

SISTEMA O PRODUCTO

Bagasse Particleboard

Line A

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Electrical Panel #31

Extrusion machine control panel

FAURICANTE DEL EQUIPO E INDENTIFICACION

Richard Schramm GMbH Frankfurt Am Main Mess - Steuer - Regeltechnik

FUNCTION

Machine control panels

EGUIPO AUXILIAR INCLUIDO

Push button - meter panel on machine

STARTER LEGATION MUCKES

Inside panel MOTORE

Motors are listed with mechanical equipment

PHYSICAL STATE

Wall mounted panel contains fuses, starters, current transformers, terminals, and main control switch. Panel is protected by tight door, and is in excellent condition. Panel on machine is in good condition. Outgoing cables are installed in an unsafe manner.

ALAL

RD\$

400

PREZAS PALTANTES Y PRESTAURACIÓN NECESARIA

No parts are missing. Switch handle won't operate main switch when door is closed. Replace handle. Re-install outgoing cables.

CONTO DE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

HOJA.

SISTEM OR PRODUCTO

Bagasse Particleboard

Line A

NAME OF FOUIPMENT NOMBRE DEL EQUIPO

Electrical Panel #32

Extrusion Machine Cut-off Saw Control Panel

PARTICANTE DEL EQUIPO E INDENTIFICATION

P. Hansen Schweighouse, West Germany

FUNCTION

KW

Cut-off saw control

EGUIPO AUXILIAN INCLUIDO

Hydraulic valves and limit switches

STARTOR

Bonoscor

on machine MOTORE

Motors are listed with mechanical equipment

PHYSICAL STATE

Panel mounted on side of machine. Wiring has been revised and solenoids disconnected. Crossed over wires indicate careless work. Panel is not covered.

MAL

RD\$

none

PREZE RELYANYES Y RESTAURACION NECESARIA

Completely replace wiring and furnish dust tight cover.

CATO M

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 45

SISTEMA O PRODUCTO

Bagasse Particleboard

Line A and B

NAME OF EQUIPMENT

Electrical Panel #2

FABRICANTE DEL EQUIPO E INDENTIFICACION

Siemens - Schuckertwerke Erlangen, Germany Distribution board for fiber preparation area.

FUNCTION

Fusegear and starters

EGUIPO AUXILIAR INCLUIDO

none

STARTER LOCATION LECACION

See Plant KW

MOTORES

Motors are listed with mechanical equipment

PHYRICAL STATE ESTADO FISICO

Panel 195 cm wide, 200 cm high, 55 cm deep, metal clad, contains main sw, fuses, and starters, bus bar and terminals. Doors don't fully close, therefore panel is subject to rain from damaged roof. Parts are corroded and starters rusted.

MESIDUAL NESIDUAL

RD\$

800

PRIZAS PALYANYES Y RESTAURACION NECESARIA

6-200 A. fuses, 9-100 A. fuses, 15-60 A. fuses, 7-25A. fuses, 1 size 3 starter, and 1 size 1 starter are missing. Install the above equipment and connect starters. Replace 6 start-stop stations in doors. Remove rust on panel and equipment and paint. Connect cables to two hammermill motors and one conveyor motor.

COLTO DE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

HOJA.

SYSTEM OF PRODUCT

Bagasse Particleboard

Line A

NAME OF SOUIPMENT

Electrical Panel #21

Oil burner control

FABRICANTE DEL EQUIPO E INDENTIFICACION

Ing. w. Oertli A. G. Zurich, Switzerland

FUNCTION FUNCION

KW

Control oil burner and oil pre-heater

EQUIPO AUXILIAR INCLUEDO

Float switch on pre-heater tank

STARTER LOCATION CHECATION

> Panel #21

MOTORE

Motors are listed with mechanical equipment

PHYSICAL STATE

Panel includes starters, control transformer, relays, electronic equipment, push buttons and selector switch. Panel in good condition except for damage by rifle bullet.

YALIDUAL YALIDUAL

RD\$

300

PARTS MISSING AND RESTORATION PROVIDED THE PARTY NECESAMA

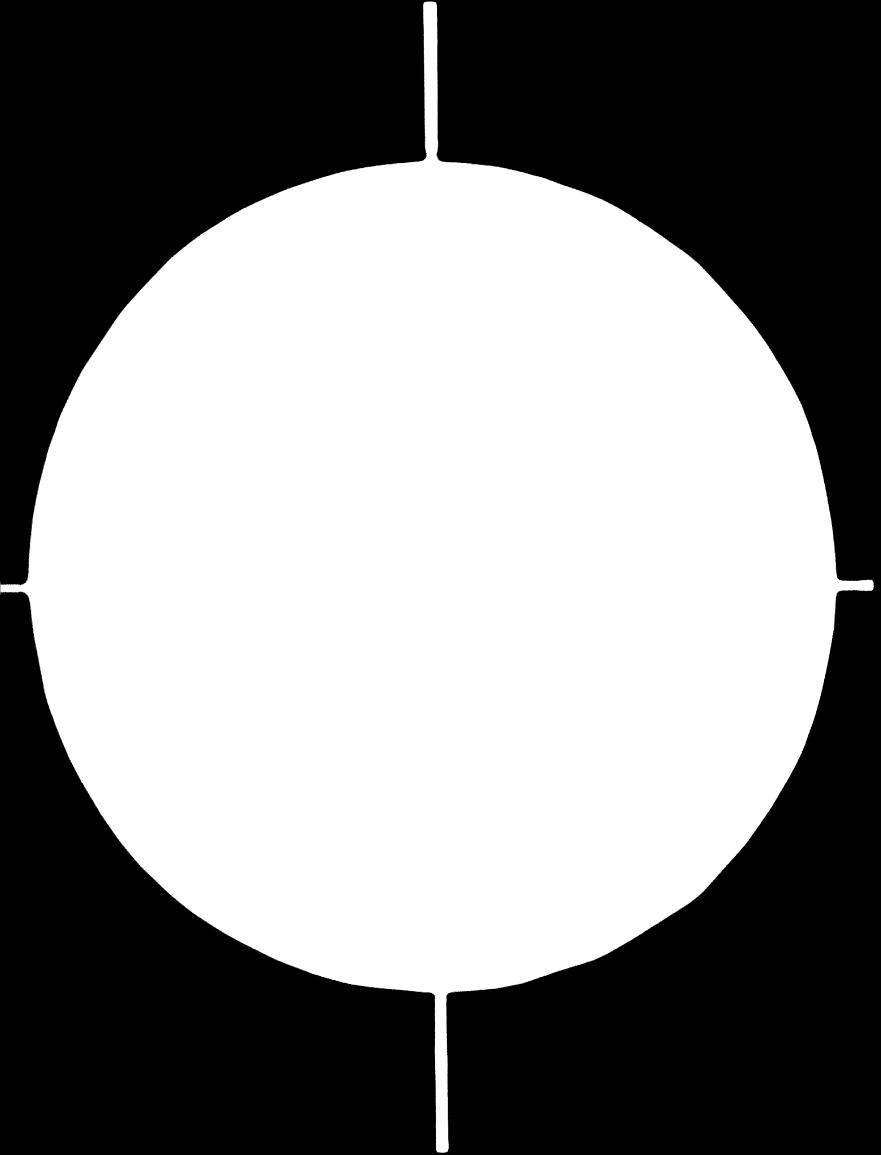
Repair panel, replace parts damaged by bullet. Remove rust, and paint. Improve oil burner motor cable run.

TORATION

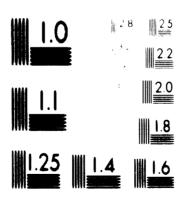
RD\$

C-925

82.10.28



3 OF



MICROCORY RESOLUTION OF A HARL MAINTENANCE OF A STATE O

24 × E

INVENTARIO DE EQUIPO Y EVALUACION

HOJA 55

SISTEMA O PRODUCTO

Bagasse Particleboard

Line B

NAME OF SOURMENT NOMBRE DEL EQUIPO

Oil Pre-heater

FOURMENT MANUFACTURER AND IDENTIFICATION FABRICANTE DEL EQUIPO E INDENTIFICACION

Oertli A.G. Dubendorf Zurich, Switzerland 400 liter P.O. No. 11640

FUNCTION

KW

KW

Pre-heat bunker "C" oil

EQUIPO AUXILIAR INCLUIDO

none

STARTER LOCATION DECACION DEL

Panel #22 MOTORES

Note: Pre-heater has an 8KW electric heater.

PHYSICAL STATE

Equipment is not installed. Oil line to tank is not installed.

Pre-heater is stored in main plant. Stored equipment is in fair condition.

MESIDUAL VALON MESIDUAL RD\$

500

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS FALTANTES Y RESTAURACION NECESARIA

Remove rust from stored unit and paint. Install pre-heater, oil lines and connect to electrical panel.

RESTORATION COSTO DE COSTO DE RESTAURACION

> RD\$ 800

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 56

HOJA

SISTEMA O PRODUCTO

Bagasse Particleboard

Line B

NAME OF SOURMENT NOMBRE DEL EQUIPO

Dryer Fan

FABRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.

Basel, Switzerland

Fan pulley 15" dia. Drive 28" c-c

FUNCTION

Dry fiber

EQUIPO AUXILIAR INCLUIDO

Ductwork from air heater to fan

STARTER LOCATION UNICACION DEL

Panel #2 KW KW

37

MOTORES

1765 rpm motor pulley 8.5" dia.

PHYSICAL STATE ESTADO FISICO

Duct for air heater missing. Material inlet duct on hand but not installed. Fan and ducts in fair condition, but rusty.

VALOR VALOR VALOR

RD\$

600

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS FALTANTES Y RESTAURACION NECESARIA

Furnish missing 37KW 1765 rpm TEFC motor and install.

Furnish and install motor pulley and flat belt.

Furnish and install air heater ducts.

Remove rust from existing equipment and paint.

COSTO DE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 57

SYSTEM OF PRODUCTO

Bagasse Particleboard

Line B

NAME OF EQUIPMENT

Dryer

FABRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.
Basel, Switzerland

Type 800/1200 duct 24" dia.
The fiber dryer consists of a vertical double walled riser for up and down air flow, a loop and a duct up to the cyclone.

FUNCTION FUNCTION

Dry fiber

AUXILIARY EQUIPMENT INCLUDED
EQUIPO AUXILIAR INCLUIDO

none

STARTER
LOCATION
UNICACION
DEL
TONICACION
no ne

KW

MOTORES

none

PHYSICAL STATE

Several bullet holes are evident and the duct is rusty, but in fair condition.

VALUE VALUE VALOR NESIDUAL

RD\$

1000

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Repair bullet holes, remove rust and repaint dryer.

COSTO DE

RD\$ 400

INVENTARIO DE EQUIPO Y EVALUACION

51

SISTEMA O PRODUCTO

Bagasse Particleboard

Line B

NOMBRE BEL BEURE

Dryer Cyclone

PARNICANTE BEL EGUIPO E INDENTIFICACION

Pawert Ltd.
Basel, Switzerland

Model HZ42 83" diameter Cyclone mounted on structural steel frame on roof.

PUNCION

Dryer air separator

SOUR ADMILIAN MELLING

none

STARTER LOCATION LOCATION

none

KW

none

AND VOICE

ESTADO PISICO

There are shell holes in the cyclone, and it is in bad condition.

RD\$

300

PHEZAS PALTANTES Y RESTAURACION NECESARIA

Repair shell holes in cyclone. Remove rust from equipment and paint. Add a dust collector to air discharge to prevent pollution.

TO M

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 59

HOJA

SYSTEM OF PRODUCTO

Bagasse Particleboard

Line B

NAME OF SOURMENT NOMBRE DEL EQUIPO

Vibrating Screen

PASHCANTE DEL EGUPO E INDENTIFICACION

Frambs and Freudenberg West Germany

4'-7" W. X 11'-0" L. X 7'-7" H.

Length - 11 ft.
Width - 4 ft. 7 in.

Height - 7 ft. 7 in.

PUNCION

Separate fiber from pith

EQUIPO AUXILIAR INCLUIDO

Discharge duct and flex connector at screen feed.

STARTER KW
LOCATION

Consider Consider

MOTORES

PHYSICAL STATE

The discharge duct to the mixer is missing.

The electrical connections to the drive motor are missing.

ABBIDUAL

RD\$

700

PREZAB RALYANYES Y RESTAURACION NECESARIA

Install the discharge duct to the mixer. Install new flex connector at screen feed. Bake and rework motor and reinstall drive. Provide electrical cable and connections to the motor. New V-belts are required.

CETO DE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

HOJA 60

SYSTEM OF PRODUCT

Bagasse Particleboard

Line B

NAME OF FOLIPMENT NOMERE DEL EQUIPO

Fines Fan

PARTICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.
Basel, Switzerland

20 cm (8") discharge duct fan pulley 8" dia.

FUNCTION

Convey fines and pith to storage.

EQUIPO AUXILIAR INCLUIDO

Inlet duct from screen

Discharge duct to cyclone

STARTER KW MOTORS

Panel

#4

17

1700 rpm Schorch

Motor pulley 6 1/2" dia.

PHYRICAL STATE

The fan and ducts are not installed.

At present one fan serves two screens through a "Y" pipe inlet.

ALOR

RD\$

none

ETORATION

PIEZAS PALTANYES Y RESTAURACION NECESARIA

Furnish and install fan and ducts. Eliminate "Y" connection.

RD\$

Furnish above motor with drive.

Install motor, drive and electrical cable to motor.

See Line A Fines Fan

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 61 HOJA_

SYSTEM OF PRODUCT SISTEMA O PRODUCTO

Bagasse Particleboard

Line B

NAME OF SOUIPMENT NOMBRE DEL EQUIPO

Vibrating Feeder

FABRICANTE DEL EQUIPO E INDENTIFICACION

Jöst GMbH

Munster, Westfield, Germany

No. MRI 933 450/300-15.00

FUNCTION

Proportion fiber feed to mixer

KW

KW

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

Chute to mixer

STARTER

Panel #4

MOTORS MOTORES

4.3 Amp 440 V. 1 phase

PHYSICAL STATE ESTADO FISICO

Chute to mixer is missing. Feeder is in fair condition.

SHOUAL

RD\$

500

PIEZAS PALTANTES Y RESTAURACION NECESARIA

Remove rust and paint feeder.

Install chute to mixer.

Add duct cover and connect it to dust collector.

RETORATION

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 62

SYSTEM OR PRODUCT SISTEMA O PRODUCTO

Bagasse Particleboard

Line B

NAME OF EQUIPMENT

Mixer Station

FABRICANTE DEL EQUIPO E INDENTIFICACION

GMbH Equipment includes Mixer type KFSP 319, 99"

Draiswerke GMbH Mannheim, Germany

Equipment includes Mixer type KFSP 319, 99"
Length X 28" diameter with batch weighing and air cylinder at intake; resin metering pump; type LR mixing tank 1. Im dia X 52" high with pump and batch paddle mixer (5HP vertical drive); batch mixer tank 27" dia. X 31" high with propeller agitator; hot water circulating pump .55 KW and heat exchanger tank 8" diameter X 36" high.

FUNCTION FUNCION

Preparation of resins
Addition of resin to fiber.

AUXILIARY EQUIPMENT INCLUDED
EQUIPO AUXILIAR INCLUIDO

	STARTER LOCATION UBICACION DEL	1 5	MOTORS (tank agitator) Schorch gear motor (mixer drive)	0.55 KW (hot water circula
***************************************	11 4 7		(mixer drive) (resin metering pump) (mixer discharge) 3.1A. (resin transf (batch mixer propeller type)	tion pump) er pump)

PHYSICAL STATE	
ESTADO FISICO	VALOR RESIDUAL
Two of the batch paddle mixers have no hot water jacket.	RD\$
All piping is needed for the resin pump.	
Tanks and machinery are rusty, but in fair condition.	4000

PARTS MISSING AND RESTORATION REQUIRED
PIEZAS FALTANTES Y RESTAURACION NECESARIA

Add hot water jackets to two batch paddle mixers. Install piping for resin metering pump. Rework transfer pump (gear pump) clean rust and oil from inside batch paddle mixers. Equipment requires mechanical reconditioning. Remove rust from all equipment and paint. Add hot water piping to jacketed tanks. Bake and rework all motors and reduces. Remove rust on drives, replace V-belts and re-install all drives. Rework air cylinder.

RESTORATION COSTO DE RESTAURACION

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 63

SYSTEM OR PRODUCT SISTEMA O PRODUCTO

Bagasse Particleboard

Line B

NAME OF EQUIPMENT

Extrusion Machine (Press)

FABRICANTE DEL EQUIFO E INDENTIFICACION

Pawert Ltd.
Basel, Switzerland

Extrusion machine platens are 52" long X 120" wide, heated by superheated water. Includes motor pulley 5" diameter X 12" face and machine pulley 52" diameter 11" wide belt, 104" c-c drive. Machine has variable speed drive.

FUNCTION FUNCION

Bagasse board extrusion

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

Vent hood 60" X 75" and 24" diameter duct to fan above.

STARTER	ı
LOCATION	┛
USICACION	
DEL	4
Panel	7
#35	1

KW KW

MOTORS

7.2/15/25/31.4 KW 350/750/1200/1500 rpm Type RS 4521/6 Schorch motor, variable speed, 440 volt, 41 amp. Note the "M-G" set for this motor is written up in the Electrical Section of the report.

PHYSICAL STATE ESTADO FISICO

Hot water piping is not installed. Electrical installation on machine is not complete. There is no chain drive on feeder. Approximately 5% of assembly work is not completed. Compressed air lines not installed. Machinery is in fair condition.

RESIDUAL VALUE VALOR RESIDUAL

RD\$

14,000

PARTS MISSING AND RESTORATION REQUIRED PIEZAS FALTANTES Y RESTAURACION NECESARIA

Install hot water and compressed air piping.

Complete electrical work on machine.

Complete assembly work of machine and install chain drive on feeder.

Remove rust and paint extruder and hood.

Bake and rework the motors. Supply new main drive belt and install drives.

RESTORATION COST COSTO DE RESTAURACION

RD\$

2,000

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 64

HOJA.

YSTEM OR PRODUCT SISTEMA O PRODUCTO

Bagasse Particleboard

Line B

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Cut-off Saw (Extrusion Press)

EQUIPMENT MANUFACTURER AND IDENTIFICATION FABRICANTE DEL EQUIPO E INDENTIFICACION

P. Hanssen Schweighouse West Germany Equipment includes a board saw, saw traverse drive, with a P.I.V. drive, and a pneumatically actuated saw carriage.

FUNCTION FUNCION

Cut-off extruded board to desired length.

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

STARTER LOCATION USICACION	KW	MOTORES
DEL TANCADO Panel #36		3450 rpm 8 amp saw motor 2.3 amp 1800 rpm saw traverse drive (gear motor)
on machine		

PHYSICAL STATE ESTADO FISICO	RESIDUAL VALUE VALOR RESIDUAL
Machine is in fair condition, but with some rust.	RD\$
Run-out table and stacking equipment are missing.	500

PARTS MISSING AND RESTORATION REQUIRED PIEZAS FALTANTES Y RESTAURACION NECESARIA

Furnish and install run-out table and stacking equipment. Drain, clean, and refill P.I.V. gear box. Bake and rework motors and motor/reducer. Install drives.

Connect plant compressed air to machine.

Rework pneumatic cylinders.

Remove rust, and paint equipment.

RESTORATION COST

COSTO DE RESTAURACION

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

PHET 47

SIEVEMA O PRODUCTO

Bagasse Particleboard

Line A

NAME OF SOLUMNINT NOMBRE DEL EQUIPO

Electrical Auxiliary Rotating
Machinery for extrusion machine

FOUIPMENT MANUFACTURER AND IDENTIFICATION FABRICANTE BEL EQUIPO E INDENTIFICACION

Schorch Werke Rheydt, Germany

FUNCTION

Motor - Generator for speed control

EQUIPO AUXILIAR INCLUIDO

Speed control motor

STARTER LOCATION DECACION

Panel #31

KW

MOTORES

Motor 41A type Vt 3820/2 3480 rpm Gen. 20/32 Amp. type PT 3818/2 3480 rpm Speed control motor 0.9/0.52 Amp type ZDBR-024 255/440V 1680/59 rpm

PHYSICAL STATE ESTADO FISICO

Machine is a vertical shaft motor generator set. The machine is in good condition but has some rust. The generator - drive motor loop has low resistance to ground.

MESIDUAL NESIDUAL

RD\$

300

PARTE MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

No parts are missing. Dismantle, bake, and clean and relubricate bearings, paint M-G set, and reinstall. Check and correct ground in external wiring if any.

COSTO DE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 65

SYSTEM OF PRODUCT

Bagasse Particleboard

Line B

NAME OF SOUIPMENT NOMBRE DEL EQUIPO

Extruder Ventilator Fan

FABRICANTE DEL EQUIPO E INDENTIFICACION

K. Merz Maschinenfabrik

Axial Fan 60" high

FUNCTION

Extruder vent fan

EQUIPO AUXILIAR INCLUSO

none

(duct included with extruder)

STARTER LOCATION UNICACION DEL

4

KW

MOTORES

840 rpm Bauknecht

PHYSICAL STATE

Equipment in fair condition.

VALOR

RD\$

400

PIEZAS PALTANTES Y RESTAURACION NECESARIA

Remove rust, and paint fan and outside duct.

Bake and rework motor and re-install fan impellor.

TOTATION

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 66

SYSTEM OF PRODUCT SISTEMA O PRODUCTO

Bagasse Particleboard

Line B

NAME OF SOUIPMENT NOMBRE DEL EQUIPO

Electrical Panel #42

Mixer Control

FABRICANTE DEL EQUIPO E INDENTIFICACION

Jöst GMbH Munster, Westfield, Germany

FUNCTION

Control speed of mixer

EQUIPO AUXILIAR INCLUIDO

Rheostat box

STARTER LOCATION UNICACION DEL KW

MOTORES

Motors are listed with mechanical equipment

PHYSICAL STATE ESTADO FISICO

Panel has fuses, starters, relays, and operators controls. Panel is in good condition. Rheostat box is in good condition. Exterior wiring is corroded.

MESIDUAL VALUE VALOR MESIDUAL

RD\$

275

PARTS MARRING AND RESTORATION REQUIRED PIEZAS PALTANTES Y RESTAURACION NECESARIA

Rewire exterior wiring in pvc conduit.

Paint panel and rheostat box.

COSTO DE

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 67

SYSTEM OR PRODUCTO

Bagasse Particleboard

Line B

NAME OF EQUIPMENT

Electrical Panel #22

Oil burner control

FABRICANTE DEL EQUIPO E INDENTIFICACION

Ing. W. Oertli A. G. Zurich, Switzerland

FUNCTION

Control oil burner and oil pre-heater

KW

KW

EQUIPO AUXILIAR INCLUIDO

Float switch on pre-heater tank

	ARTER	
Ž	ALION	L
U. 1	CACION	
DI		
	MC ACO	

Panel #22 MOTORES

Motors are listed with mechanical equipment

PHYSICAL STATE

Panel in storage, good condition

YALON YALON

RD\$

PARTS MISSING AND RESTORATION REQUIRED PIEZAS PALTANTES Y RESTAURACION NECESARIA

Mount and wire panel to oil burner, oil pre-heater and to supply (panel #2).

RESTORATION COSTO DE RESTAURACION

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

HOJA-

SYSTEM OR PRODUCT

Bagasse Particleboard

Line B

NAME OF SOUIPMENT.

Electrical panel #35 Extrusion mahine Control panel

FABRICANTE DEL EQUIPO E INDENTIFICACION

Richard Schramm GMbH Frankfurt Am Main Mess - Steuer, Regeltechnik

FUNCTION FUNCION

KW

KW

Machine Control Panels

AUXILIARY EQUIPMENT INCLUDED

Push button - meter panel on machine

STARTER LOCATION UNICACION DEL

Inside panel

MOTORES

Motors are listed with mechanical equipment

PHYSICAL STATE

Wall mounted panel contains fuses, starters, current transformers, terminals and main control switch. Panel is protected by tight door. Panel is in excellent condition. Outgoing cables are installed in an unsafe manner.

VALUE VALOR

RD\$

500

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

No parts missing. Reinstall outgoing cables.

RESTORATION COSTO DE RESTAURACION

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 69

SISTEMA O PRODUCTO

NAME OF SOUIPMENT.

Bagasse Particleboard

Electrical Panel #36

Line B

FABRICANTE DEL EQUIPO E INDENTIFICACION

P. Hannsen Schweighouse, West Germany Extrusion machine cut-off saw control panel

FUNCTION

Cut-off saw control

AUXILIARY SOLIFMENT INCLUDED

Hydraulic valves and limit switches

STARTER LOCATION UNICACION DEL KW

MOTORES

on machine Motors are listed with mechanical equipment.

PHYSICAL STATE ESTADO FISICO YALON

Panel mounted on side of machine.

RD\$

Wiring has been revised slightly.

150

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

COSTO DE

Cover missing. Supply dust tight cover and revise wiring in workmanlike manner.

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET_70

HOJA.

SYSTEM OR PRODUCTO

Bagasse Particleboard

Line B

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Electrical Auxiliary Rotating Machinery for Extrusion Machine

FABRICANTE DEL EQUIPO E INDENTIFICACION

Schorch Werke Rheydt, Germany

FUNCTION

Motor - Generator for speed control

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

Speed control motor

STARTER LOCATION USICACION	KW KW	MOTORS MOTORES
DEL ATTANCADOR Panel	18.8 14.7	Motor 41A, type Vt 3820/2 3480 rpm Gen 20/32 Amp, type PT 3818/2 3480 rpm
#35	43.1	den begond interpretation of the contraction of the

PHYSICAL STATE ESTADO FISICO

Machine is a vertical shaft motor generator set. The machine is in good condition but has some rust. The motor has low resistance to ground.

RESIDUAL VALUE VALOR RESIDUAL

RD\$

300

PARTS MISSING AND RESTORATION REQUIRED PIEZAS FALTANTES Y RESTAURACIÓN NECESARIA

Speed control pilot motor 0.9/0.52 Amp is missing. Replace it. Dismantle, bake, clean, and relubricate bearings, and paint M-G set. Locate ground and correct it.

RESTORATION COST COSTO DE RESTAURACION

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 71

SISTEMA O PRODUCTO

NAME OF EQUIPMENT

Bagasse Particleboard

Belt Conveyor

Line C

FABRICANTE DEL EQUIPO E INDENTIFICACION

Stohr Transportenlagen
Offenbach, Germany

#N 9307A-80AA with cleated rubber belt 18" wide x 8.0m. c-c. Idlers 1.0m. c-c.

Designed to be portable.

FUNCTION

AUXILIARY EQUIPMENT INCLUDED

Briquette conveyor

none

STARTER KW. KW. USICACION DEL KW. NO.

~ |

MOTORES

Gearmotor, Schorch

PHYSICAL STATE ESTADO FISICO RESIDUAL VALUE VALOR RESIDUAL

Conveyor in fair condition.

300

RD\$

PARTE MISSING AND RESTORATION REQUIRED PIEZAS PALTANTES Y RESTAURACION NECESARIA

RESTORATION COST COSTO DE RESTAURACION

Hold, do not restore.

RD\$

none

EQUIPMENT INVENTORY AND EVALUATION

PRET_12

SYSTEM OF PRODUCT

Bagasse Particleboard

Line C

NOMERE DEL EQUIPO

Hammermill (Novorotor)

FAMICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.

Basel, Switzerland

Hammermill/Novorotor #650/500 twin mill

27" W. x 64" Lg., mill pulleys 15" dia.

FUNCTION FUNCTION

EQUIPO AUXILIAN INCLUIDO

Shred briquettes

Inlet chute and suction funnel

STARTER	KW	MOTORES
Del Del none	37 37	Motor 1770 rpm Schorch Motor 1770 rpm Schorch

PHYSICAL STATE

Motors, pulleys and belts are missing.

There is no service platform around mill.

RD\$

2800

PIEZAS PALTANYES Y RESTAURACION R

Hold as is, do not restore.

10.00

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 73

STATEM OF PRODUCTO

Bagasse Particleboard

Line C

NAME OF SOURMENT NOMERE DEL EQUIPO

Bagasse Fan

POLIFICATION THE SEL SELFO E RESENTIFICATION

Pawert Ltd.
Basel, Switzerland

PUNCION

Convey bagasse from hammermill to dryer

EQUIPO AUXILIAN INCLUIDO

12" diameter pipe to cyclone

STARTER KW	MOTORES
------------	---------

none

22

1775 rpm Schorch

Inlet duct from hammermill is missing.

Motor, pulley, and drive belt are missing.

Duct to cyclone is missing.

Drive guard is missing.

Fan is in fair condition.

MESIDUAL MESIDUAL

RD\$

150

PARTE MACHINE AND RESTAURACION NECESARIA

Hold as is; do not restore.

CONTO DE

RD\$

HOUSENEMT INVENTORY AND EVALUATION

SHEET 74

SISTEMA O PRODUCTO

Bagasse Particleboard

Line C

NAME OF FOUIPMENT NOMERE DEL EQUIPO

Bagasse Cyclone

Pawert Ltd.
Basel, Switzerland

Installed over dryer fan duct position, 4 ft diameter (for bagasse fan).

FUNCION

Air separator

EQUIPO AUXILIAN INCLUIDO

Air valve

LOCATION LOCATION LOCATION

none

...

MOTORES

none

PHYRICAL STATE

Cyclone is in fair condition, but is rusty.

Air valve is in poor condition.

AND WE

RD\$

100

META MACING AND SECTIONATION SECURED.
MEZAS PALTANTES Y RESTAURACION NECESARIA

Hold as is; do not restore.

COLTO PE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 48

SISTEM OF PRODUCTO

Bagasse Particleboard

Line A

NAME OF FOUIPMENT NOMBRE DEL EQUIPO

Electrical Panel #41

Mixer Control

FABRICANTE DEL EQUIPO E INDENTIFICACION

Jöst GMbH Munster, Westfield, Germany

FUNCTION

Control speed of mixer

EQUIPO AUXILIAR INCLUIDO

Rheostat box

STARTER LOCATION UNICACION DEL KW

MOTORES

Motors are listed with mechanical equipment

PHYSICAL STATE ESTADO FISICO

RESIDUAL VALUE VALOR RESIDUAL

RD\$

275

PARTS MASING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Use control panel in storage to replace the above panel.

Rewire in pvc conduit overhead. Paint panel and rheostat box.

COST

COSTO DE

RD\$

EQUIPMENT INVENTORY AND EVALUATION

SHEET 75

none

INVENTARIO DE EQUIPO Y EVALUACION HOJA NAME OF EQUIPMENT SYSTEM OF PRODUCT SISTEMA O PRODUCTO NOMBRE DEL EQUIPO Oil Pre-heater Bagasse Particleboard Line C FABRICANTE DEL EQUIPO E INDENTIFICACION 400 liter Oertli A G Dubendorf, Zurich, Switzerland P.O. 11640 AUXILIARY EQUIPMENT INCLUDED FUNCTION EQUIPO AUXILIAR INCLUIDO FUNCION Pre-heat bunker "C" oil none KW STARTER MOTORS OCATION KW MOTORES DEL NICADO none none RESIDUAL PHYSICAL STATE VALUE VALOR RESIDUAL ESTADO FISICO Pre-heater is stored in main building, and is in fair RD\$ condition. It has some rust on the surface. 250 RESTORATION COST PARTS MISSING AND RESTORATION REQUIRED
PIEZAS PALTANTES Y RESTAURACION NECESARIA COSTO DE Hold as is; do not restore. RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 76

SISTEMA O PRODUCTO

Bagasse Particleboard

Line C

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Dryer Fan

FABRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.

Basel, Switzerland

Fan pulley 15" diameter

FUNCTION

37

Dry the fiber

EQUIPO AUXILIAR INCLUDED

Ductwork from air heater to fan

STARTER	MOTORS
OCATION SICACION	MOTORES

DEL

none

1765 rpm

PHYSICAL STATE ESTADO FISICO

Equipment missing includes the motor, pulley, drive belt, and fan inlet duct from air heater to fan.

Fan is in fair condition.

RESIDUAL VALUE VALOR RESIDUAL

RD\$

550

PARTS MISSING AND RESTORATION REQUIRED PIEZAS FALTANTES Y RESTAURACION NECESARIA

Hold as is; do not restore.

RESTORATION COST COSTO DE RESTAURACION

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET_77

SISTEMA O PRODUCTO

Bagasse Particleboard

Line C

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Dryer

FABRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.
Basel, Switzerland

The complete fiber dryer consists of a vertical double walled riser for up and down air flow, a loop and duct up to the cyclone. Type 800/1200, duct 24" diameter.

FUNCTION

Dry fiber

AUXILIARY EQUIPMENT INCLUDED
EQUIPO AUXILIAR INCLUIDO

none

STARTER LOCATION USICACION DEL

none

KW

MOTORS

none

PHYSICAL STATE ESTADO FISICO

Top half of duct (24" dia.) to cyclone is missing. The existing duct has some holes and rust, but is otherwise in fair condition.

RESIDUAL VALUE VALOR RESIDUAL

RD\$

900

PARTS MISSING AND RESTORATION REQUIRED PIEZAS FALTANTES Y RESTAURACION NECESARIA

Hold as is; do not restore.

RESTORATION COST COSTO DE RESTAURACION

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

BHEET 78

SYSTEM OF PRODUCT

Bagasse Particleboard

Line C

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Dryer Cyclone

FABRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.

Model HZ 42 83" diameter

Basel, Switzerland

FUNCTION FUNCION

KW

Dryer air separator

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

none

STARTER LOCATION UBICACION DEL ATTANCADOR

none

MOTORES

none

PHYSICAL STATE ESTADO FISICO

Note: Cyclone support structure on the roof is all there is of this installation.

VALUE VALOR RESIDUAL

RD\$

50

PARTS MISSING AND RESTORATION REQUIRED PIEZAS FALTANTES Y RESTAURACION NECESARIA

Hold as is; do not restore.

RESTORATION COSTO DE RESTAURACION

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 79

RD\$

none

HOJA NAME OF EQUIPMENT YSTEM OR PRODUCT SISTEMA O PRODUCTO NOMBRE DEL EQUIPO Bagasse Particleboard Vibrating Feeder Line C FABRICANTE DEL EQUIPO E INDENTIFICACION No. MRI 933 Jöst GMbH Munster, Westfield, Germany 450/300 - 15.00 AUXILIARY EQUIPMENT INCLUDED FUNCTION EQUIPO AUXILIAR INCLUIDO FUNCION Chute to mixer Proportion fiber feed to mixer. STARTER KW MOTORS OCATION KW MOTORES 4.3 Amp 440 V 1 phase none RESIDUAL PHYSICAL STATE VALUE VALOR RESIDUAL ESTADO FISICO RD\$ Feeder is in fair condition, but is not installed. Chute to mixer is missing. 400 RESTORATION COST PARTS MISSING AND RESTORATION REQUIRED
PIEZAS PALTANTES Y RESTAURACION NECESARIA COSTO DE RESTAURACION

Hold as is; do not restore.

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 80

SYSTEM OR PRODUCT SISTEMA O PRODUCTO Veneer Line NAME OF EQUIPMENT

Log Vats (Three units)

FABRICANTE DEL EQUIPO E INDENTIFICACION

Manufacturer unknown

Three outdoor concrete vats 12 ft wide X 38 ft long X 12 ft deep, 16" wall thickness. Located between crane rails west of lathe area.

FUNCTION

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

Soak veneer logs

none

LOCATION UNICACION DEL TENCADO none

STARTER

KW

MOTORES

none

PHYSICAL STATE ESTADO FISICO RESIDUAL VALUE VALOR RESIDUAL

Vats are in good condition.

RD\$

There are no hot water connections to vats.

2000

PARTS MISSING AND RESTORATION REQUIRED PIEZAS PALTANTES Y RESTAURACION NECESARIA

Add hot water connections.

RESTORATION COSTO DE RESTAURACION

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 81

SISTEMA O PRODUCTO

Veneer Line

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Vat Water Pump

FABRICANTE DEL EQUIPO E INDENTIFICACION

Worthington Corp. Harrison, N.J. This is a vertical turbine pump 6 ft. submersible. Has been disassembled.

FUNCTION

Circulate hot water for vats

AUXILIARY EQUIPMENT INCLUDED

none

STARTER	KW	MOTORS	
LOCATION		MOTORES	
DEL			
none	16	1800 rpm frame 286 UP, vertical hollow sh	

one 16 1800 rpm frame 286 UP, vertical hollow shaft U.S. motor

PHYSICAL STATE
ESTADO FISICO

Pump and motor are disassembled, but in good condition.

RD\$

No starter is provided.

PARTS MISSING AND RESTORATION REQUIRED
PIEZAS FALTANTES Y RESTAURACION NECESARIA

Bake and rework motor.

RD\$

Provide starter and connect to supply and motor.

800

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 82

HOJA

SYSTEM OF PRODUCTO

NAME OF EQUIPMENT

Veneer Line

Gantry Crane

FABRICANTE DEL EQUIPO E INDENTIFICACION

Demag

(Wissneth and Co. K.G.)

Rated 5000 KG 51'6" c-c crane rails. 20'0" crane rail to top of trolley rail.

Hoist: 14 meters/min.

Crane constructed of pipe and structural steel with hoist rail full width. Cable reel on one leg to provide power. Hoist block is raised by two hoist drives.

FUNCTION

Handle logs in wood yard.

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

Rails on concrete foundation.

STARTER LOCATION USICACION DEL WINCADO OD

crane

KW

MOTORES

Name plate data unavailable. Mfr., Demag.

Dual motor drive type P 50-2

PHYSICAL STATE ESTADO FISICO

Crane cab is incomplete. 50% of controls and power supply are missing; including, trolley wire and collectors; pendant push button controls; power cable to reel from supply. Crane in fair condition, but rusty.

RESIDUAL VALUE VALOR RESIDUAL

RD\$

8000

PARTS MISSING AND RESTORATION REQUIRED PIEZAS FALTANTES Y RESTAURACION NECESARIA

Remove rust and paint all steel. Complete and replace all missing electrical parts. Complete cab.

Bake and rework motor. Reinstall drive.

RESTORATION COST COSTO DE RESTAURACION

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 83

SYSTEM OF PRODUCTO

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Veneer Line

Veneer Lathe

FABRICANTE DEL EQUIPO E INDENTIFICACION

Ritter, Fleck, and Roller Berlin N 20, Germany Log length 112" max.
Log diameter 50" max.

Large chuck diameter 12"
Small chuck diameter 7.5"

FUNCTION FUNCION

AUXILIARY EQUIPMENT INCLUDED

Peeling veneer

none

STARTER LOCATION LECACION	XX XX	MOTORES.
D&L 65		DC motor Elektrodienst 275 volt 276 Amp type 6M66/700
	5, 5	Siemens 1145 rpm 22 Amp (chuck drive)
	2.2	
		See electrical report for rotary converter

PHYSICAL STATE ESTADO FISICO

PESIDUAL VALOR PESIDUAL RD\$

Lathe is in fair condition.

12,000

PARTS MISSING AND RESTORATION REQUIRED. PIEZAS PALTANTES Y RESTAURACION NECESARIA

RESTORATION COSTO DE COSTO DE

Bake and rework all motors. Reinstall drives (replace V-belts). Degrease entire machine, paint, and lubricate.

RD\$
1,000

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 84

SISTEM OF PRODUCTO

Veneer Line

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Veneer Reel and Clipper

FABRICANTE DEL EQUIPO E INDENTIFICACION

Ritter, Fleck, and Roller Berlin N20, Germany Reel Model AV-27 Unwind Model ABV-27 Clipper Model LSZ-27 110" Reel 110" Reel Knife 105" long

FUNCTION

Reel, unwind, and cut veneer sheets

EQUIPO AUXILIAR INCLUDED

Feed belts 4" wide x 7 ft. c-c Discharge belts 4" wide x 10 ft. c-c

STARTER LOCATION USICACION		MOTORS MOTORES For 6 veneer reels (inaccessible)
DEL WYDNCADOF		Motor variable speed for reel Motor variable speed 3.5/8.6 Amp Elektrodienst for unwinder
on	1.5	1715 rpm Schorch type KR 537/4 Gearmotor
machines	0.75	840 rpm Schorch type KRO 551/A-M for discharge belt drive

PHYSICAL STATE ESTADO FISICO

Air system for clipper operator is missing. Feed belts, discharge belts, and outfeed table are missing. Condition of machines is fair. RÉSIDUAL VALUE VALOR RESIDUAL

3000

RD\$

PARTS MISSING AND RESTORATION REQUIRED PIEZAS PALTANTES Y RESTAURACION NECESARIA

Replace holddown rubber rollers on clipper.

Install feed belts, discharge belts, and outfeed table.

Bake and rework all motors. Reinstall all drives.

Install air system for clipper operator.

Rework gear reducers and relubricate.

Degrease, lubricate, and paint machines.

RESTORATION COST COSTO DE RESTAURACION

RD\$ 2000

ROUBLANT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

PHEET 49

SIEVEMA O PRODUCTO

Bagasse Particleboard

Line A, B, and C

NOMERE DEL EQUIPO

Air Conditioner

FOURMENT MANUFACTURER AND IDENTIFICATION FABRICANTE BEL EQUIPO E INDENTIFICACION

Mfr. unknown 30 Ton/Hr.

Includes 3 motor/compressors 7.5 KW each and a water pump to pump water to a cooling tower on the roof. Control Cutler-Hammer Size 0 starters on wall.

FUNCTION

Maintain temperature control in resin storage room.

EQUIPO AUXILIAR INCLUIDO

Water pump for cooling water Cooling tower Condenser coils 36" X 60"

•	TARTER
	SCATION
١,	CACION
-	- Carres

Near machine KW

7.5 2. MOTORES

Three Compressor Motors
Water Pump

PHYSICAL STATE

MESIDUAL VALOR MESIDUAL

RD\$

Fan drive motor for cooling tower is missing.

Parts missing from cooling tower.

Piping is incomplete.

External wiring is poor quality.

Compressors are rusty and in poor condition.

1000

PARTS MISSING AND RESTORATION REQUIRED PIEZAS FALTANTES Y RESTAURACION NECESARIA

Supply and install motor for cooling tower fan.

Replace the cooling tower.

Completely overhaul 3 compressors, replace seals, and recharge refrigerant.

Complete piping of air conditioner.

Replace the external electrical wiring.

COSTO DE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 85

HOJA

SYSTEM OR PRODUCT

Veneer Line

NAME OF EQUIPMENT

Veneer Dryer

FABRICANTE DEL EQUIPO E INDENTIFICACION

"Tromag"
Trockenapparte & Machinenbau
Bez. Kassel, Germany

Dryer has 8 access doors; 8 hot air circulating fans.

FUNCTION FUNCION

To dry veneer

AUXILIARY EQUIPMENT INCLUDED
EQUIPO AUXILIAR INCLUIDO

Exhaust air ducts

20 veneer push trucks

STARTER LOCATION
UNICACION
UNICACION
DEL
TENCADO
See
panel
#12

MOTORS
MOTORS
MOTORS
MOTORS
MOTORS
MOTORS
MOTORS
MOTORS
MOTORS
All Pfalz-Elektra Caiserslautern motors.
11/14 Amp 860/1720 rpm type 160 M-8/4 (chain chute con.)
Quan. (4) 1730 rpm type I12M-4 (exhaust fans)
Quan. (5) 1800 rpm type KRW 731/4M)
Quan. (1) 1800 rpm type KRW 731/4M)(hot air cir. fans)
Quan. (2) 1800 rpm type KRW 731/4M)

PHYSICAL STATE

Dryer has never been used. Four 24" dia. exhaust fan ducts through roof are missing. Four access doors have temp. gauges damaged. The dryer has been subjected to considerable water damage. The horizontal baffle is almost corroded The chain grate (conveyor) is corroded in spots. There are no electrical controls or temperature controls on the machine. The dryer is in bad condition.

VALUE VALOR RESIDUAL RD\$

RESIDUAL

13,000

PARTS MISSING AND RESTORATION REQUIRED
PIEZAS FALTANTES Y RESTAURACION NECESARIA

Replace damaged temperature gauges. Replace 25% of the dryer passageways. Replace 10% of the heating coils. Replace the horizontal baffle. Replace the chain grate. Install air ducts through roof for exhaust fans. Install temperature controls and electrical controls on the dryer. Bake and rework all motors. Replace V-belts and reinstall circulating fan drives on missing equipment list. Insulate entire dryer.

RESTORATION COST COSTO DE RESTAURACION RD\$

15,000

INVENTARIO DE EQUIPO Y EVALUACION

HOJA.

SYSTEM OF PRODUCT SISTEMA O PRODUCTO

Veneer Line

NAME OF SOUPMENT NOMERE DEL EQUIPO

Re-clipper

FABRICANTE DEL EGUPO E INDENTIFICACION

Ritter, Fleck, and Roller Berlin N20, Germany Model MSE-27 No. JAHR 2103/1960 106" knife

FUNCTION

FUNCION

Cut veneer sheets

2.2

on

machine

EQUIPO AUXILIAN INCLUIDO

Electrical controls: 2 speed MSE 31531 110V-220V 20Amp transformer type Transformer 440V 3.8A 220V 7.5A 1650 V.A.

STARTER KW MOTORES MOTORES

1140 rpm type K631/4M Schorch

PHYSICAL STATE

Re-clipper and electrical panel are in fair condition.

Infeed and outfeed tables are missing.

STIPLIAL STALL

1000

RD\$

PIEZAS PALTANTES Y RESTAURACION NECESARIA

Bake and rework motor.

Degrease, lubricate, and paint machine.

Recondition, and repaint controls

Fabricate and install work tables.

RD\$

ROUPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 87

SISTEMA O PRODUCTO

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Veneer Line

Veneer Jointer

FOURMENT MANUFACTURER AND IDENTIFICATION VASRICANTE DEL EQUIPO E INDENTIFICACION

Ritter, Fleck, and Roller Berlin N20, Germany Model 13F 27No. Jahr 2105/1961 Veneer lineup bars, planer heads (coarse and fine) 5" dia. X 6" long. Machine bed

910"

Carriage drive V-pulley 6" dia.

Driven pulley 8" dia.

FUNCTION

To machine edges of veneer for joining.

EQUIPO AUXILIAR INCLUIDO

none

STARTER	T W	MOTOR MOTOR		
CACION	3 4/5.5	MOTOR Quantity (2) 3485 rpm type KR 1740/3500 rpm 7.25/9.0 Amp	631/2M Schorch (planer hd c - Schorch (carriage)	
		1680 rpm 5.5 Amp	(hydraulic pump)	
	0.5	1700 rpm type GD 213 Gearm	otor-Adolph Dietz (glue	

	0.5	1700 rpm type GD 213 Gearmotor-Adolph	Dietz (glue roller)
These incknives. There is	lude "I no dust	PHYSICAL STATE ESTADO FISICO ets of this machine are missing. B" V-belt 24" c-c, glue head and planer collection system. There is no feed table. ols (limit switches etc.) are missing.	RESIDUAL VALUE VALOR RESIDUAL RD\$

20% of the controls (limit switches etc.) are missing.	
Veneer line up bars poor quality. The machine is in fair condition.	1200
THE INSCIDENCE OF AN ABAT COMMISSION	

PARTE MISSING AND RESTORATION REQUIRED. PIEZAS PALTANYES Y RESTAURACION NECESARIA

Install glue head and planer knives.
Install dust collector system and cutter heads.
Degrease, lubricate and paint machine.
Bake and rework all motors.
Install drives and new V-belts.

RESTORATION COST DE COSTO DE RESTAURACION RD\$

SOUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 88 HOJA

SISTEMA O PRODUCTO

Veneer Line

NAME OF FOUNDMENT NOMBRE DEL EQUIPO

Veneer Taping Machine

FOUIPMENT MANUFACTURER AND IDENTIFICATION FAMILIANTE DEL EQUIPO E INDENTIFICACION

Adolph Friz Stuttgart, Germany

Type ZMP 3 No. 475 has two contact making temperature gauges.

FUNCTION

Tape-join veneer edge to edge

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

Infeed and outfeed tables Controls: motor switch, wey-delta starting

STARTER KW OCATION BICACION KW DEL 1.5

MOTORS MOTORES

on machine 1700 rpm

PHYSICAL STATE ESTADO FISICO

Machine is in fair condition.

Control is in fair condition.

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Degrease, lubricate, and paint machine. Furnish infeed and outfeed tables. Bake and rework motor.

Reinstall drive.

RESTORATION COST COSTO DE

RD\$

RESIDUAL

VALUE VALOR RESIDUAL

RD\$

500

INVENTARIO DE EQUIPO Y EVALUACION

HOJA 89

SISTEMA O PRODUCTO

NAME OF SOUIPMENT NOMBRE DEL EQUIPO

Veneer Line

Veneer Taping Machine

FABRICANTE DEL EQUIPO E INDENTIFICACION

Adolph Friz Stuttgart, Germany Type ZMP 3 No. 476 has 2-contact making temperature gauges.

FUNCTION

EQUIPO AUXILIAR INCLUDED

Tape-join veneer edge to edge

Infeed and outfeed tables
Controls: motor switch, wye-delta starting

STARTER LOCATION USCACION	KW
DEL DEL DEL DEL DEL DEL DEL DEL DEL DEL	1.5

MOTORES

1700 rpm

PHYSICAL STATE

on machine

Machine is in fair condition.

Motor starter switch is burned.

Control otherwise in fair condition.

RESIDUAL VALOR NESIDUAL

RD\$ 500

PARTS MISSING AND RESTORATION REQUIRED. PIEZAS PALTANTES Y RESTAURACION NECESARIA

Degrease, lubricate, and paint machine. Furnish infeed and outfeed tables.

Replace burned motor switch.

Bake and rework motor.

Re-install drive.

RD\$

700

RESTORATION

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 90 HOJA

SISTEMA O PRODUCTO

Veneer Line

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Veneer Joiner

FABRICANTE DEL EQUIPO E INDENTIFICACION

Adolph Friz Stuttgart, Germany Model 7K20

Mach. No. 193 Comm. No. 604

FUNCTION FUNCION

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

Glue-join veneer edge to edge

Infeed and outfeed tables

STARTER LOCATION USICACION DEL ON ON machine		MOTORS MOTORES Varidrive motor	
	<u> </u>	-	RESIDUAL

PHYSICAL STATE ESTADO FISICO Poor workmanship on controls and cabling. Supply cable and conduit are cut off and buried in the concrete. Machine requires work table. Infeed and outfeed tables are missing.

VALOR RESIDUAL

RD\$

Machine is in bad condition.

400

PARTS MISSING AND RESTORATION REQUIRED
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Machine requires complete dismantling and overhaul, and painting. Add work table.

Bake and rework motor, and replace belt on varidrive. Pull in new electrical cable and connect to controls.

Furnish infeed and outfeed tables.

COSTO DE RESTAURACION RD\$

RESTORATION COST

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 91

SISTEMA O PRODUCTO

Veneer Line

NAME OF EQUIPMENT

Electrical Panel #1
Distribution board for green veneer and dryer

FABRICANTE DEL EQUIPO E INDENTIFICACION

Siemens - Schuckertwerke Erlangen, Germany

FUNCTION

AUXILIARY EQUIPMENT INCLUDED

Fusegear

none

STARTER
LOCATION
USICACION
DEL
STANCADOR
See
plant

layout

KW

MOTORES

Motors are listed with mechanical equipment

PHYSICAL STATE ESTADO FISICO

Panel 100 cm wide, 200 cm high, 45 cm deep. Metal clad. Contains main sw, fuses, bus bar, and terminals. Rifle bullet went through back and upper bus area.

RESIDUAL VALOR RESIDUAL RD\$

500

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

2-60A fuses, 21-25A fuses, 3-200A fuse holders and fuses are missing. Install fuses and install fuse holders and connect. Repair rifle damage. Remove rust, and paint panel. Locate and remove ground in bus.

RESTORATION COSTO DE RESTAURACION RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 92

HOJA

SYSTEM OF PRODUCT

Veneer Line

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Electrical Panel #11 Lathe control and M-G set

EQUIPMENT MANUFACTURER AND IDENTIFICATION FARRICANTE DEL EQUIPO E INDENTIFICACION

Electro-dienst

Dipl Ing Riba K.G. Neuweid, Rhein, Germany #60228/4 control 60228/1 motor

60228/2 generator

FUNCTION FUNCION

Control speed and load of veneer lathe

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

Lathe operators panel on lathe (load ammeter is broken)

STARTER LOCATION USICACION	KW KW	MOTORS MOTORES
OEL 80		Motor Type DG80/4 No. 60228/1.88 pf 440v 31 60 hz 1740 rpm amp 130
Panel #11	76	Gen. Type 676/4 No. 60228/2 volt 275 amp 276

PHYSICAL STATE ESTADO FISICO

Control panel includes relays, rheostat, and oil circuit breaker (starter) fuses, control transformer. Panel is in good condition and complete. M-G set (see under motors) - Gen. - Drive motor loop and generator fields indicate low resistance grounds.

Otherwise M-G set is in good condition.

RESIDUAL VALUE VALOR RESIDUAL RD\$

700

PARTS MISSING AND RESTORATION REQUIRED PIEZAS FALTANTES Y RESTAURACION NECESARIA

Replace indicating lamps. Replace or repair broken ammeter.

Dismantle and bake M-G set, clean and lubricate bearings, repaint M-G and panel.

RESTORATION COST COSTO DE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 93

SISTEMA O PRODUCTO

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Veneer Line

Electrical Panel#12
Veneer dryer motor control

FARRICANTE DEL EQUIPO E INDENTIFICACION

Panel built up by installation, contractor's electricians using Siemens

FUNCTION

Controls 8-cir. fans 4-exhaust fans and 1 - conveyor motor

AUXILIARY EQUIPMENT INCLUDED

none

STARTER LOCATION UNICACION DEL TANCADO Panel #12 KM KM

MOTORES

Motors are listed with mechanical equipment

PHYSICAL STATE

The controls for 9 circulating fans have 3 contactors each, for two speed operation. Contactors not connected to motors; push button panel not wired. Cables not connected at motor end.

RESIDUAL VALUE VALOR RESIDUAL

RD\$

200

PARTS MISSING AND RESTORATION REQUIRED PIEZAS FALTANTES Y RESTAURACION NECESARIA

Starter for conveyor is missing. Install starter and cable to motor. Install and connect cable from distribution panel to this panel. Inspect, clean, and connect all other starters to their respective motor cables. Replace reset buttons instarters. Wire up push buttons and controls.

RESTORATION COST

COSTO DE RESTAURACION

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 94

HOJA

SISTEMA O PRODUCTO

Veneer Line

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Electrical Panel #6
Distribution board for
Panel manufacture

FABRICANTE DEL EQUIPO E INDENTIFICATION

Siemens Schuckertwerke Erlangen, Germany

FUNCTION

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

Fusegear

none

STARTER LOCATION UNICACION DEL

KW

MOTORES

Motors are listed with mechanical equipment

PHYSICAL STATE ESTADO FISICO

Metal clad panel 130 cm wide, 200 cm high, and 45 cm deep contains, main switch, fuses, bus bar and terminals.

Panel is in good condition except bus is grounded. Some outgoing cables are grounded.

RESIDUAL VALUE VALOR RESIDUAL

RD\$

500

PARTS MISSING AND RESTORATION REQUIRED
PIEZAS PALTANTES Y RESTAURACION NECESARIA

2- 80A fuses and 14-25A fuses are missing. Remove rust and paint panel. Replace grounded cables.

RESTORATION COST COSTO DE RESTAURACION

RD\$

Bayasse Particleboard

Line B

Belt Conveyor

Stohr Transportanlagen Offenbach, Germany

#N9307A-80AA, has cleated rubber belt 18" wide x 8. 0m c+c. Idlers 1.0m c-c portable unit

EGUPS AUXILIAN INCLU

Briquette conveyor

none

Panel #2

1/2 Gearmotor Schorch

Conveyor not installed. It is stored in machine shop and is in fair condition.

RD\$

300

MO PROTOPATION

Clean and paint. Provide support with wheels. Bake and rework motor/reducer and re-install drive. Provide portable cord for the conveyor, and connect to switch and motor. Lubricate belt idlers.

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 95

SISTEMA O PRODUCTO

NAME OF EQUIPMENT

Veneer Line

Electrical Panel #61

Veneer jointer operator's control

FABRICANTE DEL EQUIPO E INDENTIFICACION

(RFR) Fleck, Ritter and Roller Berlin N20, Germany

FUNCTION FUNCION Operator's control

EQUIPO AUXILIAR INCLUIDO
Limit switches on machine

STARTER LOCATION USICACION DEL KW

MOTORS

Motors are listed with mechanical equipment.

PHYSICAL STATE ESTADO FISICO

Panel has push buttons, switches, disconnect, starters, and relays. Panel equipment and wiring badly damaged by rifle bullet. Panel of no value only machine wiring useable.

MESIDUAL VALOR MESIDUAL

RD\$

100

PARTS MISSING AND RESTORATION REQUIRED PIEZAS PALTANTES Y RESTAURACION NECESARIA

Replace panel and connect to motor and control runs.

RESTORATION COSTO DE RESTAURACION

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET.

YSTEM OR PRODUCT SISTEMA O PRODUCTO

Veneered Bagasse Board and Plywood

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Resin Preparation Station (Line C Mixer Station)

FABRICANTE DEL EQUIPO E INDENTIFICACION

Draiswerke GMbH Mannheim, Germany Equipment includes Mixer type KFSP 319,99"L. X 28"dia. with batch weighing and air cyl. at intake; resin metering pump; type LR mixing tank l. lm dia X 52" high with pump and batch paddle mixer (5HP vertical drive); Batch mixer tank 27" dia X 31" high with propeller agitator. Hot water circulating pump .55 KW and heat exchanger tank 8" diam X 36" high.

FUNCTION FUNCION

Preparation of resin only.

AUXILIARY EQUIPMENT INCLUDED

See equipment above.

STARTER LOCATION	KW	MOTORS.	
DEL	5	(tank agitator) Schorch gear motor	0.55 KW (hot
MYTHINCADOR	10	(mixer drive)	water circulation
Panel	1/4HP 1/4HP	(resin metering pump) (mixer discharge) 3. 1A (resin transf (batch mixer propeller type)	pump) er pump)

	VALUE VALOR RESIDUAL	
a a superior to the superior to also	RD\$	

Tanks and machinery are rusty, but in fair condition.

3000

RD\$

1500

-

PARTS MISSING AND RESTORATION REQUIRED
Plezas PALTANTES Y RESTAURACION NECESARIA Postore only the equipment required for resin preparation
Restore only the equipment required for real properties
for veneering bagasse board and plywood. Do not restore
main mixer. Add hot water jackets to 2 Batch Mixers. In-
stall piping for resin metering pump. Rework transfer pump
(gear pump). Clean rust and oil from inside Batch Paddle

(g Mixers. The resin preparation equipment requires mechanical reconditioning. Remove rust from the equipment and paint. Bake and rework the motors driving resin preparation equipment.

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 97 HOJA....

SYSTEM OF PRODUCT

Veneered Bagasse Board and Plywood

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Glue Spreader

FABRICANTE DEL EQUIPO E INDENTIFICACION

Adolph Friz Sutttgart, Germany

Model LAG Mach. No. 277 Comm. No. 4188

FUNCTION PUNCION

Resin Coating of Bagasse Board

2.4

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

none

	MOTORS
LOCATION	MOTORES
USICACION	

DEL on

machine

1700 rpm 3.6 Amp Type NKO 53e/4 (mfr.) AEG

PHYSICAL STATE ESTADO FISICO

Equipment missing includes: Board feed table, lay-up table, veneer feed table and conveyor to loader. The handles for the rolls are missing.

The control panel is not connected to the electrical supply. The central panel is in good condition. The machine is in fair condition.

PARTS MISSING AND RESTORATION REQUIRED. PIEZAS FALTANTES Y RESTAURACION NECESARIA

Install a board feed table, lay-up table, veneer feed table, and conveyor to loader.

Install handles for rolls.

Install conduit and electrical cable to machine.

Replace the rubber covering on the rolls.

Bake and rework motor and reducer.

Degrease, lubricate and paint the machine.

RESIDUAL VALUE VALOR RESIDUAL

RDS

1200

RESTORATION

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 98

SISTEMA O PRODUCTO

Veneered Bagasse Board and Plywood

NAME OF EQUIPMENT

Small Glue Spreader

FABRICANTE DEL EQUIPO E INDENTIFICACION

Ritter, Fleck, and Roller Berlin, Germany Model CL14
2 roller unit with 56" wide rolls

FUNCTION

Resin coating of Bagasse Board AUXILIARY EQUIPMENT INCLUDED

none

MOTORS

MOTORES

STARTER LOCATION UNICACION DEL

> on machine

KW

1.2

1630 rpm Type D30/4

PHYSICAL STATE ESTADO FISICO

The equipment missing includes: Board feed table, lay-up table, and veneer feed table.

Electrical panel is in fair condition but the power connection is incomplete.

The machine is in fair condition.

1000

METORATION

MESIDUAL VALUE

VALOR

RD\$

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Install a board feed table, a lay-up table and a veneer feed table.

Install the conduit and electrical cable to the machine. Bake and rework the motor and reducer.

Degrease, lubricate, and paint the machine.

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 99

HOJA

RESIDUAL

SYSTEM OR PRODUCTO

Veneered Bagasse Board and Plywood

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Multiple Opening Plywood Press (including Charger and Unloader)

FABRICANTE DEL EQUIPO E INDENTIFICACION

Seimplekamp

- 8 Opening Press with one main cylinder
- 8 Opening Elevating charger 8 Opening Automatic Unloader

FUNCTION

Form and cure Veneered Bagasse Boards.

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

Hydraulic pump with 40" V-belt pulley. 3 cylinder oscillating pump with open crank.

STARTER LOCATION	KW	MOTORS MOTORES			
USICACION DEL	18	860 rpm (Hyd. pump) Drive Pulley 10" dia. 5 D section			
ATTANCADOR		V-belts.			
operators Panel		Gear motor (Elevating Charger)			
#62	1.2	Vertical Gear motor 2.5 Amp (Unloader)			

ESTADO FISICO

Equipment that is missing includes: Hot water hoses to each platen, all hydraulic connections, electrical connections on press, loader and unloader. (limit switches, etc.)

Entire press is badly corroded.

Press cylinder is standing in water and is corroded.

The press steam plates need replacement.

The press is in bad condition.

(cont.)

The press is in bad condition.

PARTS MISSING AND RESTORATION REQUIRED
PIEZAS FALTANTES Y RESTAURACION NECESARIA
Clean-up and rework hydraulic pump.
Install hot water hoses and hydraulic lines.
Completely recondition press, press cylinder, charger and unloader.
Remove rust and paint.
Replace or repair press platens.
Install pusher assembly in charger.
Install all limit switches and electrical wiring on the machines.

5300

5300

INVENTARIO DE EQUIPO Y EVALUACION

PHET 100

SISTEMA O PRODUCTO

NAME OF SOURMENT NOMBRE DEL EQUIPO

Multiple Opening Plywood Press (continued)

PARTICANTE DEL EQUIPO E INDENTIFICACION

FUNCTION

EQUIPO AUXILIAR INCLUIDO

STARTER LOCATION UNICACION DEL

KW

MOTORES

PHYSICAL STATE

The charger has no pusher.
The unloader is badly rusted.
The caul plates are badly corroded.
Press has no ventilation system

YALON

RD\$

See Sheet 99

PIEZAS PALTANTES Y NESTAURACIÓN NECESARIA

Install and connect cables to motors.

Degrease, lubricate and paint all equipment.

Bake and rework motors and gear reducers.

Re-install all drives.

Install new V-belts on hydraulic pump.

Replace the caul plates.

Install fume hood, fan and ducts over press.

HOTO DE

RD\$

See

Sheet 99

INVENTARIO DE EQUIPO Y EVALUACION

101

SYSTEM OF PRODUCT

Veneered Bagasse Board and Plywood

MARKE OF SOLUBIATION TO SOLUBIO

Sheet Saw (Skinner and Trim Saw)

PRESIDENT MANUFACTURER AND IDENTIFICATION -

P. Hanssen Schweighouse, Germany Model B-RH
Consists of frame with tracks and
moving table and drive and four
saws.

PUNCION

Skinner and Trim Saw

EGUIPO AUXILIAN INCLUIDO

none

STARTOR KW

Panel #63 MOTORES

8.4 Amp 3600 rpm Type BSF85A Quan. (4) (Saw motors)
Gear motor (Table drive)

ESTADO PISICO

There is no sawdust collection system.

The saw blades are missing.

2

There is no air connection for hold down clamp, arm cylinder.

The machine is in fair condition.

MESIDUAL

RD\$

1600

PIEZAS PALYANTES Y RESTAURACIÓN NECSSAMA

Install dust collection pipes.

Install air connections. Furnish 4 saw blades.

Bake and rework motors.

Re-install table drive

Degrease, lubricate, and paint machine.

Clean and lubricate air cylinder.

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 102

SYSTEM OR PRODUCT SISTEMA O PRODUCTO

Veneered Bagasse Board and Plywood

NAME OF EQUIPMENT

Two Double Cut-off and Squaring Saws

FABRICANTE DEL EQUIPO E INDENTIFICACION

Heinrich Huellhorst Maschinenfabrik Bad Oeynhausen, Germany 2 saws each, squaring bed.
Panel is handled and moved
through saw by hand.
Manual switch for motor
control.

FUNCTION FUNCTION

Skinner and trim Saws for Boards

3

on

machine

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

none

STARTER LOCATION USICACION	KW	MOTORES
DEL		(saw motor)

(saw motor)

PHYSICAL STATE ESTADO FISICO

There is no sawdust collection system.

Manual starting switch missing on one saw.

Wooden overlay on bed is rotted.

The electrical supply cable is not connected.

RESIDUAL VALUE VALOR RESIDUAL

RD\$

1300

RESTORATION

OSTO DE

PARTS MISSING AND RESTORATION REQUIRED
PIEZAS FALTANTES Y RESTAURACION NECESARIA

Replace rusty saw blades. Replace wooden overlay.

Bake and rework motors.

Bake and rework motors.

Degrease, lubricate and paint machine.

Install dust collection heads and ducts.

400

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 103

SYSTEM OF PRODUCT

NAME OF SOUIPMENT

Veneered Bagasse Board and Plywood Three Drum Sander

FABRICANTE DEL EQUIPO E INDENTIFICACION

Boettcher & Gessner Hamburg, Germany

Starkstrom - Gummersbach (control panel)

Model No. US 125 Hag. No. 2577 LFD No. 12496 49" wide Control panel consists of a series of manual switches. 3-4" Ammeters for sander drum loads.

FUNCTION FUNCTION

Sand plywood sheets

AUXILIARY FOURPMENT INCLUDED

none

STARTER LOCATION UNICACION	KW	(All Siemens motors) MOTORS (Sander drum)
on	5.5	(Sander drum) 1730 rpm 14 amp (Sander drum) 1.4/1.7/25KW840/1115/1700 rpm type R54-864 (fd.mtr)
machine		Bed adjustment motor

	PHYSICAL STATE ESTADO FISICO		
ESTADO F			
Machine sands top of panel onl	y on one	pass.	

Feed belt has rotted rubber.

Machine is in bad condition.

Electrical control panel is in bad condition.

No Sander dust collector is provided.

PESIDUAL VALUE VALUE NESIDUAL

RD\$

3000

PARTS MISSING AND RESTORATION REQUIRED PIEZAS PALTANTES Y RESTAURACION NECESARIA

Disassemble entire machine, clean remove rust, lubricate and reassemble.

Replace electrical control panel.

Bake and rework motors. Reinstall drives.

Replace rubber topped feed belt.

Install dust collector and duct to header.

RESTORATION

COSTO DE

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 104

SYSTEM OF PRODUCT

Veneered Bagasse Board and Plywood NAME OF EQUIPMENT

Cross Cut-off Saw (Swing Saw)

EQUIPMENT MANUFACTURER AND IDENTIFICATION FABRICANTE DEL EQUIPO E INDENTIFICACION

Fezer Maschinenfabrik GMbH Esslingen, Germany

Machine No. 31614 Saw diameter 16"

Feed table 20" wide X 26 ft long
Control switch on frame of machine.

FUNCTION

Cut veneered boards to length

AUXILIARY EQUIPMENT INCLUDED

none

STARTER LOCATION USICACION DEL

2.3

KW

KW

MOTORES

3600 rpm type KATT

on

machine

PHYSICAL STATE

Control switch is not connected to electrical supply. Machine is in fair condition.

Control is in fair condition.

RESIDUAL VALUE VALOR RESIDUAL

RD\$

250

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Degrease, lubricate, and paint machine.

Replace control switch handle.

Install supply cable to control.

Bake and rework motor.

RESTORATION COST COSTO DE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

PHOT 51

SISTEMA O PRODUCTO

Bagasse Particleboard

Line B

NOMERE DEL EQUIPO

Hammermill

PARTICANTE BEL EQUIPO E INDENTIFICACION

Pawert Ltd.
Basel, Switzerland

Hammermill/Novorotor #650/500 twin mill 27" wide X 64" long mill pulleys 15" diameter

FUNCTION

Shred briquettes

EQUIPO AUXILIAR INCLUIDO

Inlet chute and suction funnel

LOCATION	KW		MOTORES
Panel	37	Motor 1770 rpm	required motor pulleys 15" diameter
#2	37	Motor 1770 rpm	

PHYRICAL STATE

Equipment is in fair condition, except rusty. Inlet chute has bullet holes. Drive motors are missing.

MESIDUAL

RD\$

3000

PARTE MISSING AND RESTORATION REQUISED. PIEZAS PALTANTES Y RESTAURACION NECESARIA

Remove rust and paint. Provide 2 37KW 1770 rpm TEFC motors. Install motor pulleys. Provide drive belts and install drive. Fabricate and install belt guard. Repair holes in ducts. Inspect and renew screen if required.

CONTO DE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

HOUA-

SYSTEM OR PRODUCTO

NAME OF FOUIPMENT NOMBRE DEL EQUIPO

Veneered Bagasse Board and Plywood

Hydraulic Single Opening Cold Press

EQUIPMENT MANUFACTURER AND IDENTIFICATION FABRICANTE DEL EQUIPO E INDENTIFICACION

G. Joos

Pfalzgrafenweiler

Wurtt, Germany

Machine No. 902
Max pressure 600 atm.
opening 32"
platen 49" X 201"

FUNCTION FUNCION

Press glued sheets together

AUXILIARY EQUIPMENT INCLUDED

none

STARTER LOCATION UNICACION	KW	MOTORS.
on	3	Hydraulic power pack motor
machine		

PHYSICA	LSTATE
ESTADO	FISICO

Press is end loading and of very light construction. Press is in fair condition.

Electrical control is in good condition.

MESIDUAL MESIDUAL

RD\$

1100

PARTS MISSING AND RESTORATION REQUIRED. PIEZAS FALTANTES Y RESTAURACION NECESARIA

Wash, remove rust, and paint machine. Disassemble and flush hydraulic system.

RESTORATION COSTO DE RESTAURACION

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 106

SISTEMA O PRODUCTO

Veneered Bagasse Board and Plywood

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Hydraulic Single Opening
Hot Press

FABRICANTE DEL EQUIPO E INDENTIFICACION

Robert Burkle & Company Spezielmachinenfabrik Freudenstadt, Germany Model No. SR240 132/260 order No. 34435/60 600 Atm. max. opening 7"

Platen 52" X 102"

Control and operator's push button

on machine.

Contact making pressure gauge 630 Kg/cm²

FUNCTION

4

4

Plywood press

on

machine

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

none

	MOTORS
LOCATION	MOTORES
DEL	Hydraulic Pump Motors

1730 rpm 7.7 Amp vertical Schorch 1730 rpm 7.7 Amp vertical Schorch

PHYSICAL STATE

Platens require cleaning.
Temperature gauges are broken.
Control panel has good quality wiring.
Hot water is connected, but poor insulation job.

RESIDUAL VALUE VALOR RESIDUAL

4000

RD\$

PARTS MISSING AND RESTORATION REQUIRED PIEZAS FALTANTES Y RESTAURACION NECESARIA

Clean and polish platens.

Remove rust and paint machine.

Replace temperature gauges.

Replace water pipe insulation. Bake and rework motors.

Flush hydraulic system and replace fluid.

RESTORATION COSTO DE RESTAURACION

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 107

SISTEMA O PRODUCTO

Veneered Bagasse Boards

NAME OF EQUIPMENT

Five Opening Hydraulic Hot Press

EQUIPMENT MANUFACTURER AND IDENTIFICATION FABRICANTE DEL EQUIPO E INDENTIFICACION

Von Becker and Van Hullen

Krefeld, Germany

Elektro-Industrie (Control)

Platen 52" X 100"

5 openings 3-3/4" each max. pressure 600 atm.

4 - main rams 1 - jack ram

Hydraulic pump on top of press.

Platen hot water supply is connected

through swing joints. S-3099 type SK25 (control)

FUNCTION FUNCTION

To veneer bagasse board

AUXILIARY EQUIPMENT INCLUDED

none

MOTORS

STARTER KW.
LOCATION KW
DEL

PRINCADO

on machine 7.5

MOTORES

1750 rpm Ser. 49197/2 Electro-mecanique

PHYSICAL STATE

Press area needs charger and unloader facilities. The press is in fair condition.

RESIDUAL VALUE VALOR RESIDUAL

RD\$ RS\$4000

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Disassemble hydraulic pump, clean and refill.

Blow out all lines - hydraulic and water.
Bake and rework motor. Reinstall drive with new belts.

Remove rust and paint press.

Install charger and unloading racks.

RESTORATION COST COSTO DE RESTAURACION

RD\$

RD\$800

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 108

HOJA.

YSTEM OR PRODUCT SISTEMA O PRODUCTO NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Veneered Bagasse Board and Plywood

Multiple Blade Circular Saw

EQUIPMENT MANUFACTURER AND IDENTIFICATION FABRICANTE DEL EQUIPO E INDENTIFICACION

B. Raimann GMbH Freiburg, St. Georgen Germany

Type KBUMA Mach. No. 16242 Ser. No. 61/1/3251 Ex. Fraesbreite 18" Control switch type SD-K307G. 120 Amp

FUNCTION FUNCION

Rip panels to size

AUXILIARY EQUIPMENT INCLUDED

none

KW STARTER 1.6/2.0

on machine KW 37

MOTORS MOTORES

3500 rpm 61 amp. type DM 2816/2 Perske (cutter drive) 1800/3600 rpm type FMNA 412-IRN Glaser Von Praun (Table feed motor)

PHYSICAL STATE ESTADO FISICO

RESIDUAL VALUE VALOR RESIDUAL

RD\$

Cutter drive starter switch (manual) has badly burned contacts.

Saw is in fair condition.

4500

PARTS MISSING AND RESTORATION REQUIRED
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Bake and rework motor. Re-install drives. Replace burned starter switch. Remove rust and paint machine.

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 109

SYSTEM OF PRODUCT

Veneered Bagasse Board and Plywood

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Cut-off Saw

FABRICANTE DEL EQUIPO E INDENTIFICACION

Altendorf

12" diameter blade
Machine No. 61-3-21
Circular saw with moving table.
Control is a manual motor switch,
for Wye-Delta.

FUNCTION

KW

KW

To edge trim panels.

EQUIPO AUXILIAR INCLUIDO

none

STARTER LOCATION UNICACION OLL STANCADOR

on machine MOTORES

unknown

PHYSICAL STATE ESTADO FISICO

Saw is in fair condition.

Some rust is evident.

VALOR NESIDUAL

RD\$

500

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Clean, lubricate and paint the machine.

Bake and rework motor.

Reinstall drive.

COSTO DE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 110

SISTEMA O PRODUCTO

Veneered Bagasse Board and Plywood

NAME OF FOUIPMENT NOMBRE DEL EQUIPO

2-Milling Machines (Router)

FABRICANTE DEL EQUIPO E INDENTIFICACION

Stehle Holzherr

Type ET2 Machine No. 20830 & 20831

Control is manual motor switch Wye-delta

FUNCTION FUNCTION

Edge shape veneered boards

AUXILIARY EQUIPMENT INCLUDED

none

STARTER LOCATION UNCACION DEL

> on machine

KW

3/3.7 1710/3410 rpm 0.5/0.7 1700/3300 rpm MOTORES

Holzherr (router drive)
Holzherr (feed drive)

PHYRICAL STATE

Machine is in fair condition.

There is some rust on frame.

Control is in fair condition.

VALUE VALUE VALOR

RD\$

800 (2)

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Clean and lubricate the machine. Bake and rework motors.

COSTO DE

RD\$
600
(2)

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 111

HOJA

SYSTEM OR PRODUCT SISTEMA O PRODUCTO NAME OF EQUIPMENT

Veneered Bagasse Board and Plywood

Table Jointer

FABRICANTE DEL EQUIPO E INDENTIFICACION

Stehle

FUNCTION

AUXILIARY EQUIPMENT INCLUDED

Planer

none

STARTER KW MOTORS MOTORS

on

machine

1.5

3400 rpm vertical shaft

PHYSICAL STATE ESTADO FISICO

Machine is rusty and in fair condition mechanically. Control is in fair condition.

PROPULAL VALOR PROPULAL

RD\$

300

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

TORATION

Bake and rework motor.
Remove rust, lubricate, and paint machine.

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 112

SYSTEM OF PRODUCT

Veneered Bagasse Board and Plywood

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Small Planer

EQUIPMENT MANUFACTURER AND IDENTIFICATION FABRICANTE DEL EQUIPO E INDENTIFICACION

Maschinenfabrik Hofman Leohh Wuerdsheim, Bayern, Germany

24" wide Planes top of board

(control) W. Perske Mannheim, Germany

Two manual motor switches

FUNCTION FUNCION

4

Finish surface of veneered board.

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

nore

STARTER KW KW on machine

3440 rpm 7.4 amp planer head

MOTORS

MOTORES

PHYSICAL STATE ESTADO FISICO

Machine has no planer shavings collector. The planer is rusty and in fair condition. The control is in good condition.

BIOUAL ALOA

RD\$

300

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Remove rust, lubricate, and paint machine. Install dust collector and duct. Bake and rework motor.

RD\$

BOUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 113 HOJA.

SISTEMA O PRODUCTO

Veneered Bagasse Board and Plywood

NAME OF BOUIPMENT NOMBRE DEL EQUIPO

Vertical Router (Inside Chain Saw)

FABRICANTE DEL EQUIPO E INDENTIFICACION

Kansch and Kammerer Stuttgart, Germany

This is a portable machine, a vertical chain saw with adjustable height.

FUNCTION FUNCION

Cut openings in veneered Bagasse Board

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

none

STARTER LOCATION UNICACION	KW	MOTORES	
on	1.5	3400 rpm	Chain saw drive

Manufacturer - Blocker machine

PHYSICAL STATE ESTADO FISICO

No sawdust collector is provided. Machine is in fair condition. Control is in fair condition.

RESIDUAL VALUE VALOR RESIDUAL

RD\$

300

PARTS MISSING AND RESTORATION REQUIRED. PIEZAS PALTANTES Y RESTAURACION NECESARIA

Clean, lubricate, and paint machine Bake and rework motor. Install dust collector and duct to header.

RESTORATION

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

PRET LIS

SISTEMA O PRODUCTO

Veneered Bagasse Board and Plywood NOMERE DEL EQUIPO

2 - Hydraulic Single Opening Cold Presses

FABRICANTE BEL EQUIPO E INDENTIFICATION

G. Joos Maschinenfabrik
Pfalzgrafenweiler
Wurtt, Germany

Platen 49" X 99" and 31-1/2" opening. Maximum pressure 600 atm. Control in panel on machine.

FUNCTION

Veneering of Bagasse Board EGUIPO AUXILIAN INCLUIDO

none

LOCATION UNICACION DEL	KW	MOTORE	i
on	2	Hydraulic pump drive (No	
machine	2	Hydraulic pump drive (No	

PHYSICAL STATE ESTADO FISICO

Presses are in fair condition.

Control is in good condition.

One hydraulic pump motor is missing.

MANDUAL

RD\$

4000

PARTS MISSING AND RESTORATION PROVIDED PIEZAS FALTANTES Y RESTAURACION NECESAMA

Supply and install pump motor.

Bake and rework existing motor.

Reinstall drive with new belts.

Remove rust and paint press.

Flush hydraulic system and refill.

CONTO DE

RD\$

(2)

INVENTARIO DE EQUIPO Y EVALUACION

94967 52

STEMM OF PRODUCTO

Bagasse Particleboard

Line B

NAME OF SOLUTIONS AT

Bagasse Fan

PARTICIANT MANUFACTURER AND IDENTIFICATION
VARINCANTE BEL EQUIPO E INDENTIFICACION

Pawert Ltd.
Basel, Switzerland

Flat pulley - 7 1/2" diameter - 5" wide on fan

FUNCTION

Convey bagasse from hammermill to dryer

EGUIPO AUXILIAN INCLUIGO

7.5" diameter duct from hammermill to fan. 12" diameter pipe to cyclone.

STARTER LOCATION LOCATION

Panel #2 KW

22

MOTORES

1775 rpm, Schorch.

8" diameter flat pulley

5" wide on motor

PHYSICAL STATE ESTADO FISICO

Fan has a damaged housing. Equipment is rusty and in fair condition mechanically.

A DUAL

RD\$

350

PIEZAS PALTANTES Y RESTAURACION NECESARIA

Repair holes in fan, 5" flat drive belt missing. Remove rust, and paint. Bake and rework motor. Install drive. Fabricate and install belt guard.

CONTO PE

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 115

SYSTEM OR PRODUCT

Veneered Bagasse Board and Plywood

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Electrical Panel #5
Distribution panel for veneered bagasse board and plywood

FOURMENT MANUFACTURER AND IDENTIFICATION FABRICANTE DEL EQUIPO E INDENTIFICACION

Siemens - Schuckertwerke Erlangen, Germany

FUNCION

EQUIPO AUXILIAR INCLUIDO

Fusegear

none

	TA	
	CA	
_		00

KW

MOTORES

Motors are listed with mechanical equipment.

PHYRICAL STATE

Metal clad panel 80 cm wide, 200 cm high, and 45 cm deep contains main switch, fuses, bus bar and terminals. Panel is in good condition. Some outgoing cables are grounded.

RESIDUAL VALUE VALOR RESIDUAL

RD\$

400

PARTS MARING AND RESTORATION REQUIRED. PREZAS PALTANYES Y RESTAURACION NECESARIA

Thirty 25 Amp fuses are missing. Install fuses. Replace grounded cables. Remove rust and paint panel.

RESTORATION COST COSTO DE RESTAURACION

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 116

SYSTEM OR PRODUCTO

Veneered Bagasse Board and Plywood

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Electrical Panel #62 Press Operator's Panel

FABRICANTE DEL EQUIPO E INDENTIFICACION

Siemens Schuckertwerke Erlangen, Germany Control panel contains main switch, fuses, starters, relays, and operator's controls. Two dial type contact-making pressure indicators, 0 to 630 Kg/cm².

FUNCTION

Control press, charger and unloader

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

none

STARTER	KW	
LOCATION	KW	
USICACION DEL		
ATTANCADO!		

MOTORES

in panel none

PHYSICAL STATE ESTADO FISICO

Panel is corroded some inside and out and is in fair condition.

This panel is not installed.

VALUE VALOR RESIDUAL

RD\$

350

PARTS MISSING AND RESTORATION REQUIRED PIEZAS FALTANTES Y RESTAURACION NECESARIA

Install panel in place provided near 8 opening (Seimple-kamp) press.

Connect power supply.

Install hydraulic control lines.

Connect all control and motor cables.

RESTORATION COST COSTO DE RESTAURACION

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

HOUA.

SYSTEM OF PRODUCT

Veneered Bagasse Board and Plywood

NAME OF SOURMENT NOMBRE DEL EQUIPO

Electrical Panel #63

Control panel for sheet saw
(Skinner and trim saw)

FABRICANTE DEL EQUIPO E INDENTIFICACION

Panel built up by installation contractor's electricians from Telemecanique starters.

FUNCTION PUNCION

Control sizing and squaring of veneered panel

EQUIPO AUXILIAR INCLUIDO

Limit switches on machine

STARTER LOCATION DEL VIENCADO

panel #63 KW

MOTORES

Motors are listed with Mechanical Equipment

PHYSICAL STATE ESTADO FISICO

Panel built in wall from fuse box assembly and starters.

Panel is in good condition except for appearance.

VALUE VALOR MESIDUAL

RD\$

100

PARTS MISSING AND RESTORATION REQUIRED PIEZAS PALTANTES Y RESTAURACION NECESARIA

No parts missing. Remove rust and paint.

COSTO DE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 118

SYSTEM OR PRODUCTO

NAME OF FOUIPMENT

Moulded Products

Fines or Pith Cyclone

FABRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.
Basel, Switzerland

FUNCTION FUNCION

Air separator for pith

AUXILIARY EQUIPMENT INCLUDED

none

STARTER LOCATION UNICACION DEL TONICACO KW

MOTORES

none

none

PHYSICAL STATE ESTADO PISICO

Bullet holes in cylcone. Cyclone otherwise in good condition.

MESIDUAL MESIDUAL

RD\$

100

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Hold as is. Do not restore

COSTO DE

RD\$

SOURPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 119 HOJA

SYSTEM OF PRODUCT SISTEMA O PRODUCTO

Moulded Products

NAME OF FOUIPMENT NOMBRE DEL EQUIPO

Pith Storage Silo

FABRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.

Basel, Switzerland

Silo is 81" diameter X 270" high.

FUNCTION FUNCION

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

Store pith

none

STARTER CACION

none

KW KW

MOTORS MOTORES

none

PHYRICAL STATE ESTADO FISICO

Sile is in good condition.

RD\$ 200

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Hold as is. Do not restore

RD\$ none

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 120

HOJA.

SYSTEM OR PRODUCT SISTEMA O PRODUCTO

NAME OF EQUIPMENT

Moulded Products

Mixer Station

FABRICANTE DEL EQUIPO E INDENTIFICACION

Draiswerke GMbH Mannheim, Germany Equipment includes Mixer type KFSP 319, 99"L. X 28" dia. with batch weighing and air cylinder at intake; resin metering pump; type LR mixing tank 1. Im dia X 52" high with pump and batch paddle mixer (5HP vertical drive); batch mixer tank 27" dia. X 31" high with propeller agitator; hot water circulating pump . 55 KW and heat exchanger tank 8" dia X 36" high.

FUNCTION FUNCION

AUXILIARY EQUIPMENT INCLUDED
EQUIPO AUXILIAR INCLUIDO

Preparation of resins
Addition of resins to pith

see above

STARTER LOCATION	KW	MOTORS	
UEICACION	_	(tank agitator) Schorch gear motor	0.55 KW (hot
DEL ATTANCADOR	10	(mixer drive)	water circulation
Panel	1/4HP	(mixer drive) (resin metering pump) (mixer discharge) 3.1A. (resin tran	pump) sfer pump)
#44	3/4HP	(batch mixer propeller type)	

PHYSICAL STATE ESTADO FISICO Electrical equipment is installed but not wired.	RESIDUAL VALUE VALOR RESIDUAL
Tanks and mixer are installed but there is no piping. All equipment is not located near pith silo. 2 - Batch paddle mixers have no hot water jackets.	RD\$
Tanks and machinery are rusty, but in fair condition. Feed chutes are not installed.	3800

PARTS MISSING AND RESTORATION REQUIRED PIEZAS FALTANTES Y RESTAURACION NECESARIA	RESTORATION COSTO DE RESTAURACION
Hold as is. Do not restore.	RD\$
	none

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 121

SISTEMA O PRODUCTO

Moulded Products

NAME OF EQUIPMENT

EQUIPO AUXILIAR INCLUIDO

Pith Storage Silo

FABRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.

Basel, Switzerland

81" dia. X 270" high

FUNCTION

none

MOTO

Store pith

STARTER LOCATION UNICACION DEL

none

KW

none

ESTADO FISICO

Silo is not installed.

Silo is rusty and in fair condition.

MOUAL VALUE

RD\$

400

PARTS MARING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESAMA

Hold as is. Do not restore.

TOTATION

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET_122

HOJA

YSTEM OR PRODUCT SISTEMA O PRODUCTO NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Moulded Products

Mixer Station

EQUIPMENT MANUFACTURER AND IDENTIFICATION FABRICANTE DEL EQUIPO E INDENTIFICACION

Draiswerke GMbH Mannheim, Germany

Equipment includes Mixer type KFSP 319, 99"L. X 28" dia. with batch weighing and air cylinder at intake; resin metering pump; type LR mixing tank 1. 1m. dia. X 52" high with pump and batch paddle mixer (5HP vertical drive); batch mixer tank 27" dia X 31" high with propeller agitator; hot water circulating pump .55 KW and heat exchanger tank 8" diameter X 36" high.

FUNCTION FUNCION Preparation of resins AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

Addition of resin to pith

see above

STARTER LOCATION	KW	MOTORS	
USICACION DEL ATTANCADOR	10	(tank agitator) Schorch gear motor (mixer drive)	0.55KW (hot water circulation
Panel \$45	1/4HP 1/4HP	(resin metering pump) (mixer discharge) 3.1A. (resin transf	pump) er pump)

			PHYSICAL STATE	RESIDUAL VALUE
The second secon	Panel \$45	10 1/4HP 1/4HP 3/4HP	(tank agitator) Schorch gear motor (mixer drive) (resin metering pump) (mixer discharge) 3.1A. (resin trans (batch mixer propeller type)	water circulation pump) fer pump)
	UNICACION	5	MOTORES	0.55KW (hot

ESTADO FISICO	RD\$
This equipment is stored in various places in the plant.	RD\$
The gear motor for one vertical mixer tank is missing.	
Equipment is rusty and in fair condition.	3500
	İ

Equipment is rusty and in fair condition.	3500
PARTS MISSING AND RESTORATION REQUIRED PIEZAS FALTANTES Y RESTAURACION NECESARIA	RESTORATION COSTO DE RESTAURACION
Hold as is. Do not restore.	RD\$
	none

ECLIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 123 HOUA_

SYSTEM OF PRODUCTO

Moulded Products

NAME OF FOUIPMENT NOMBRE DEL EQUIPO

2 - Pith Storage Silos

FABRICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.

Basel, Switzerland

81" dia. X 270" high

FUNCTION FUNCION

KW

KW

AUXILIARY FOLIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

none

Store pith

STARTER CATION

none

MOTORS MOTORES

none

PHYSICAL STATE ESTADO FISICO

Silo is not installed.

Silo is rusty and in fair condition.

RESIDUAL VALOR RESIDUAL

RD\$

800

PARTS MISSING AND RESTORATION REQUIRED
PIEZAS PALTANTES Y RESTAURACION NECESAMIA

Hold as is, do not restore or install

RESTORATION COST COSTO DE

> RD\$ none

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 124

HOJA

SYSTEM OF PRODUCT

Moulded Products

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Ventilator Fans (Two Units)

FABRICANTE DEL EQUIPO E INDENTIFICACION

K. Merz Machinenfabrik

Two fan units mounted on elbows passing through north wall of mixer room. Each fan is an axial unit 5 ft in diameter and 5 ft high.

FUNCTION

4

Room ventilation

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

none

STARTER KW MOTORS
LOCATION KW MOTORS

Panel

#4

840 rpm

PHYSICAL STATE
ESTADO FISICO

Fans are installed, but there are no duct connections.

Motors are not connected to power.

VALUE VALOR RESIDUAL

RD\$

300

(for two)

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS FALTANTES Y RESTAURACION NECESARIA

Hold as is. Do not restore.

RESTORATION COSTO DE RESTAURACION

RD\$

NVENTARIO DE EQUIPO Y EVALUACION

PART 53

STEVENA O PRODUCTO

Bagasse Particleboard

Line B

NAME OF SOLUMNISHT

Bagasse Cyclone

PARTICANTE DEL EQUIPO E INDENTIFICACION

Pawert Ltd.
Basel, Switzerland

Diameter · 4 feet (for bagasse fan)

FUNCTION

Air separator

EQUIPO AUXILIAN INCLUIDO

Air valve

KW

MOTORES

none

PHYSICAL STATE

Cyclone has bullet holes in it, and is rusty, but in fair condition. Air valve is on hand, but not installed.

MESIDIAL

RD\$

200

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Repair bullet holes in cyclone. Remove rust and repaint cyclone. Repair air valve and install in duct. Remove rust from air valve, and paint.

COSTO DE

RD\$

EQUIPMENT INVENTORY AND EVALUATION SHEET 125

			HOJA.
SYSTEM OR PRODU		NAME OF EQUIP	
Moulded Products		Hydraulic Pur	np
EQUI	PMENT MANUFA	CTURER AND IDENTIFICATION	L
Pumpenfabrik Ura	6	Type RD 11 3 cylinder 64 liters/min. 300 atm. 46" diameter flywheel with 9 "D" section drive.	V-belt
FUNCTO FUNCIO Supply hydraulic	N	AUXILIARY EQUIPMENT EQUIPO AUXILIAR none	T INCLUDED
STARTER KW. KW. USICACION DEL WANCADOF Panel #4	none	MOTORES	
Motor is missing			RESIDUAL VALOR RESIDUAL RD\$
PARTS	MIRRING AND R	ESTORATION REQUIRED	RESTORATION

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 126

SYSTEM OR PRODUCT SISTEMA O PRODUCTO NAME OF EQUIPMENT

Moulded Products

Hydraulic Control Console

FABRICANTE DEL EQUIPO E INDENTIFICACION

Manufacturer unknown 600 Kg/cm maximum pressure on Gutor gauge.

FUNCTION FUNCTION

Control hydraulic process

EQUIPO AUXILIAR INCLUIDO

none

STARTER LOCATION UNICACION DEL KW

MOTORES

none

condition.

none

PHYSICAL STATE ESTADO FISICO

Console electrical and hydraulic equipment are in good

The equipment is not installed.

RD\$

300

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Hold as is. Do not restore.

COSTO DE

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 127

SYSTEM OF PRODUCT

Moulded Products

NAME OF EQUIPMENT

Pressure Tank

FABRICANTE DEL EQUIPO E INDENTIFICACION

Otto Klein

Tank 56" diameter X 10 feet long. Capacity is 5000 liters at 16 atm. Tank stands vertically on short legs.

FUNCTION FUNCION

Probably for compressed air.

EQUIPO AUXILIAR INCLUIDO

none

STARTER LOCATION USCACION DEL TENICACO none KW

MOTORS

none

PHYSICAL STATE ESTADO FISICO

The tank is not installed, but is in fair condition.

MESIDUAL VALOR NESIDUAL

> RD\$ 250

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Hold as is. Do not restore.

RESTORATION COST

COSTO DE RESTAURACION

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

PHOST 128

SISTEMA O PRODUCTO

Moulded Products

NOMBRE DEL EQUIPO

3 Hydraulic Accumulators

FAMICANTE DEL EQUIPO E INDENTIFICACION

Manufacturer unknown 20" diameter X 14 feet long high pressure

FUNCTION FUNCTION

Hydraulic pressure storage vessels

BOUTO AUXILIAN INCLUSES

none

STARTER LOCATION DECACION DEL

none

KM

MOTOR

none

PHYSICAL STATE

Equipment is not installed and internal condition is unknown RD\$

SOUTH

RD\$ 600

PARTS MISSING AND RESTORATION SECURISION PREZAMINATION RECESAMINA

Hold as is. Do not restore

TO PL

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 129

HOJA.

SYSTEM OF PRODUCT

Moulded Products

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Electrical Panel #44
Mixer Control

FAUNTMENT MANUFACTURER AND IDENTIFICATION FAUNCANTE DEL EQUIPO E INDENTIFICACION

Jöst GMbH Munster, Westfield, Germany Console type panel has fuses, starters, relays, and operator's controls.

FUNCTION FUNCTION

KW

Control speed of mixer

EQUIPO AUXILIAR INCLUIDO

Rheostat box

•	TARTER
L	CATION
U,	CACION
0	L

TENCADO

in panel

MOTORES

Motors are listed with mechanical equipment.

PHYRICAL STATE

The panel is in fair condition. There are 3 broken indicating lights.

The rheostat box is in fair condition.

There is no external wiring to motors.

RESIDUAL VALUE VALOR RESIDUAL

RD\$

300

PIEZAS PALTANTES Y RESTAURACION NECESARIA

Hold as is. Do not restore.

COSTO DE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 130

HOJA

SISTEMA O PRODUCTO

Moulded Products

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Electrical Panel \$45 Mixer Control

FABRICANTE DEL EQUIPO E INDENTIFICACION

Jöst GMbH Munster, Westfield, Germany Console type panel has fuses, starters, relays, and operator's controls.

FUNCTION FUNCION

Control speed of mixer

AUXILIARY POLIFMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

Rheostat box

STARTER LOCATION UNICACION DEL KW

MOTORES

Motors are listed with mechanical equipment.

in p<u>ane</u>l

PHYSICAL STATE

The panel is in fair condition.

There are 3 broken indicating lights.

The rheostat box is in fair condition.

There is no external wiring to motors.

MESIDUAL VALON MESIDUAL

RD\$

300

PARTA MARGING AND RESTORATION REQUIRED.
PREZAS PALTANTES Y RESTAURACION NECESARIA

Hold as is. Do not restore.

10 DE

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 131

SYSTEM OF PRODUCT SISTEMA O PRODUCTO NAME OF EQUIPMENT

Moulded Products

Pith Mixer

FABRICANTE DEL EQUIPO E INDENTIFICACION

Draiswerke GMbH Mannheim, Germany Equipment includes mixer 24" diameter X 120" long with motor, drive belts, and feed hopper.

FUNCTION

Addition of resin to pith.

EQUIPO AUXILIAN INCLUIDO

no ne

•	TARTER
M	CATION
	CACION
~	
1	none

4

KW

MOTOR

7.4 Amp. Gear motor

PHYRICAL STATE

Equipment is quite corroded, and in poor condition.

MARIOLAL

RD\$

800

PREZAS PALYANYSS Y RESTAURACION NECSEANA

Hold as is; do not restore.

TOTATION

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

HOJA.

SISTEMA O PRODUCTO

NAME OF EQUIPMENT

Moulded Products

Hydraulic Compressor

FABRICANTE DEL EQUIPO E INDENTIFICATION

Manufacturer unknown

Compressor with 7" "D" size V-belt drive, flywheel 41" O.D. and 9" face.

FUNCTION

Supply hydraulic oil pressure.

EQUIPO AUXILIAR INCLUIDO

none

STARTER LOCATION UNICACION DEL KW

MOTORES

60 Amp 1175 rpm Type ARV 1151/6M Schorch Motor pulley 9.5" O.D.

PHYRICAL STATE

Equipment is partially crated and not installed. Motor and compressor are in good condition.

MESIDUAL VALOR MESIDUAL

400

RD\$

PRETA MACHIG AND RESTORATION RECURSO. PRETAR RALYANTES Y RESTAURACION NECESARIA

Hold as is. Do not restore.

TO DE

RD\$

OUR MENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 133

SISTEM OF PRODUCTO

Plant Services

NAME OF BOUIPMENT NOMBRE DEL EQUIPO

Hot Water Boiler

CUIPMENT MANUFACTURER AND IDENTIFICATION ABRICANTE DEL EQUIPO E INDENTIFICACION

Wilhelm Kuesters Aachen, Germany Boiler No. 3968 Barjahr 1961, 15Kg/cm² working pressure at 3,750,000 K cal/Hr.

Fuels: Bunker "C" oil, wood waste, and pith.

Stack: 38" diameter X 65 ft long.

Boiler and stack foundation are complete.

FUNCTION FUNCION

Furnish superheated water for plant.

ILLARY SOLIFFICENT INCL EQUIPO AUXILIAN INCLUIDO

4 - oil pre-heaters

8	RSTRAT	
M	CATION	
	EEUN	
	k	
		Į

Panel #72

KW

18.5

OTON

720 rpm type SO9G/4 Schorch (Induced Draft Fan)

The boiler status is as follows: the fire box is not completed no brick work nor insulation have been installed; firebox cas ing is not installed; oil burner is not installed; stack on hand, but not installed; part of breach duct missing; piping from oil pre-heaters to burner not installed.

Stack is rusty. There is no electrical installation anywhere on boiler or in the room. No piping is installed.

The equipment that is installed is basically in good condition.

RD\$

25,000

PARTS MISSING AND BESTORATION PIEZAS FALTANTES Y RESTAURACION NECESA

Fire-brick and insulation are available in storage. Complete the fire box installation and casing. The oil burner is available (see following sheet). Clean rust from stack, paint, and install. Install all duct work and its insulation. Install piping for oil, air, and water. Install cables to motors and electrical starters. Bake and rework draft fan motor. Remove rust from all equipment stored and repaint.

RD\$

14,000

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 134

SISTEM OR PRODUCT

NAME OF SOUIPMENT

Plant Services

Oil Burner (For Hot Water Boiler)

FOUR PRINT MANUFACTURER AND IDENTIFICATION PARTICANTE DEL EQUIPO E INDENTIFICACION

Fritz Barth

Type AG 104 ("Ray" oil burner head)

Burner head mounted on frame for swinging

away from burner.

PUNCTION

EGUPO AUXILIAR INCLUSO

Oil Burner

none

Panel

#73

MOTOR

7.5 HP blower motor

PHYSICAL STATE

A STATE OF THE PARTY OF THE PAR

The burner is externally corroded.

100

RD\$

PIEZAS MALTANYES Y NESTAUNACION NECESAMA

Remove rust, lubricate, and paint the burner.

Bake and rework blower motor.

A CONTRACTOR

RD\$

<u>OLIEMENT INVENTORY AND EVALUATION</u> NVENTARIO DE EQUIPO Y EVALUACION

54 St

NATEMA OF PRODUCTO

Bagasse Particleboard

Line B

NAME OF SOMEMENT NOMERE DEL EQUIPO

Air Heater

(Oil burner and combustion chamber)

PARTICANTE DEL EQUIPO E INDENTIFICACION

Burner-G. Johnson, Oakland, California Burner Type BH-2

Chamer-Oertli A.G. Dubendorf

Zurich, Switzerland

Chamber Type AR3 No. 257 with fan 3800 cu. meter/Hr.

FUNCTION

Combustion products dry fiber

UKILLARY BOLIFMENT INCL EQUIPO AUXILIAN INCLUIDO

none

STARTER

Panel #22

KW KW

2.2 1/16HP

40TOB MOTOR

1780 rpm

PHYSICAL STATE

Equipment is missing.

RD\$

none

PARTS MERING AND RESTORATION REQUIRED PIEZAS PALTANTES Y RESTAURACION NECESARIA

Purchase equipment, install, insulate and paint.

RD\$ 8000

INVENTARIO DE EQUIPO Y EVALUACION

PHEST 135

SYSTEM OR PRODUCT

Plant Services

NAME OF SOLUPMENT

Boiler Accessory Equipment

FOURMENT MANUFACTURER AND IDENTIFICATION PARTICION TO THE PROPERTY OF THE PROP

Manufacturer unknown

- 1 Auxiliary oil storage tank
- 2 Oil circulating pumps
- 6 Calrod immersion heaters in tank
- 2 Boiler return pumps
 6" inlet and 6" outlet pipes
 types 1128 (Auftrag 31397 No. 1847)

FUNCTION

Equip boiler

EGUIPO AUXILIAN HICLUND

See Above

ACATION MOVEMENT

> Panel #72

MOTOR

3/4 HP (oil circulating pumps)
1725 rpm type 931/4 Schorch (boiler return pumps)

PHYRICAL STATE

Boiler make-up water treatment system is missing. Pump motors are not connected electrically or piped up. There is no electrical installation of calrod heaters. The equipment is in fair condition. Maria L

RD\$

300

PREZAS MALTANTES Y RESTAURACION NECESAMA

Purchase and install boiler make-up water treatment system.

Piping of pumps and electrical installation are covered under the boiler analysis.

Remove rust, lubricate, install and paint all equipment. Bake and rework pump motors.

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 136

HOJA

SYSTEM OR PRODUCT

NAME OF SOUIPMENT NOMBRE DEL EQUIPO

Plant Services

Sawdust Silo and Boiler Feeder

FOLIPMENT MANUFACTURER AND IDENTIFICATION VASRICANTE SEL EQUIPO E INDENTIFICACION

Manufacturer unknown Automatic feeder wheel and pipe to boiler.

FUNCTION

Feeds sawdust, chips, and pith to boiler.

EGUITS AUXILIAN INCLUSES

none

STARTER SCALION

Panel

#72

MOTORE

Unknown gearmotor

ESTADO PISICO

Ducts and cyclones for transporting waste fuel to sawdust silo are missing.

Condition of feeder and sile is fair.

A STAN

RD\$

500

PREZAS RALTANTES Y RESTAURACION RECESAMA

Bake and rework gear motor/reducer.

Lubricate feeder.

Install ducts from wood-working area and pith storage area, to boiler house.

Install cyclones over silo.

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 137

SISTEM OF PRODUCTO

NAME OF SOUIPMENT NOMBRE DEL EQUIPO

Plant Services

Oil Storage Tank

FOUIPMENT MANUFACTURER AND IDENTIFICATION FABRICANTE DEL EQUIPO E INDENTIFICACION

Manufacturer unknown

Tank is 16 ft. in diameter X 18 ft. high located west of the boiler house. A pipeline is installed to a near-by oil supply depot.

FUNCTION

Bunker "C" oil storage

KW

EQUIPO AUXILIAR INCLUIDO

Tank valves and ladder

STARTER ACCATION DICACION

none

MOTORES

none

PHYSICAL STATE

Tank has two shell holes in it.

Some rust spots appear on tank.

MARIAL MARIA

RD\$

300

PARTE MARING AND METORATION REQUIRED

Repair 2 shell holes.

Remove rust and paint the tank exterior.

Clean inside of the tank - remove condensed moisture.

TOWNSON

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 138

SYSTEM OR PRODUCT

Plant Services

NAME OF EQUIPMENT

Main Air Compressor (Low Pressure)

FABRICANTE DEL EQUIPO E INDENTIFICACION

Karl Wittig GMbH

Schopfheim
Baden, Germany

Type DVN 13066 880 rpm 5 atm. (75 psi)

Machine No. 138090/18 Suction capacity 935 m³/Hr.

109 shaft H. P.

FUNCTION

Provide compressed air.

92

EQUIPO AUXILIAN INCLUIDO

Air reservoir 5'-3" diameter X 17'-0" long

STARTER LOCATION TELETON

> Panel #71

KW MOTORES

880 rpm 155 Amp. type DS535/8 tropicalized Rheinische Elektro-Maschinenfabrik

PHYSICAL STATE

The compressor, intercooler, after cooler, and reservoir are piped.

There is no low pressure plant air system installed. The compressor is in fair condition.

MESIDIAL

RD\$

3000

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NUCLEARIA

Clean lubrication system and existing air lines.

Dismantle the compressor for inspection and cleaning.

Repair and relubricate the machine.

Remove rust from exterior and paint.

Bake and rework motor.

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

SHEET_139

SISTEMA O PRODUCTO

Plant Services

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Auxiliary Air Compressor (High Pressure)

FARRICANTE DEL EQUIPO E INDENTIFICACION

Karl Wittig GMbH Schopfheim Baden, Germany Type DVN 45-4 8 atm. (120 psi) Machine No. 138040/29 Suction capacity 270m³/Hr. 41 shaft H.P.

FUNCTION

Provide compressed air

AUXILIARY EQUIPMENT INCLUDED

Air Reservoir 4 ft. 7 in. diameter X 11 ft long

STARTER LOCATION UNICACION	KW	MOTORS MOTORES
Panel #71	35	1730 rpm 59Amp, type DS 351574 Rheinische Elektro-Maschinenfabrik

		ESTA	00 FIS	ICO			
Compressor,	inter	cooler,	after	cooler,	and	reservoir	are
-1							

PHYSICAL STATE

There is no plant air system installed. Compressor is in fair condition.

VALUE VALUE VALOR RESIDUAL RD\$

2000

PARTS MISSING AND RESTORATION REQUIRED. PIEZAS PALTANTES Y RESTAURACION NECESARIA

Clean oil lines, and existing air lines.

Dismantle compressor for inspection and cleaning.

Relubricate and repair the machine.

Remove rust from exterior and paint.

Bake and rework motor.

COSTO DE

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 140

HOJA. SYSTEM OR PRODUCT SISTEMA O PRODUCTO NAME OF EQUIPMENT NOMBRE DEL EQUIPO Roof Storage Tank Plant Services EQUIPMENT MANUFACTURER AND IDENTIFICATION FAURICANTE DEL EQUIPO E INDENTIFICACION Horizontal tank 5 ft. diameter X 35 Manufacturer ft long. unknown Tank is resting on cradle with legs, located on roof of main building. AUXILIARY EQUIPMENT INCLUDED FUNCTION EQUIPO AUXILIAR INCLUIDO Fire protection reservoir none STARTER KW MOTORS KW OCATION MOTORES none none ESIDUAL PHYRICAL STATE ESTADO FISICO ALOR Tank is in fair condition but is not connected to the fire RD\$ protection water lines. 400 ETORATION PARTS MISSING AND RESTORATION REQUIRED PIEZAS PALTANTES Y RESTAURACION NECESARIA Remove rust and paint. RD\$ Flush inside of tank before service. 300

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET_141

SYSTEM OR PRODUCTO

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Plant Services

Hot Water Pumping Station (2-Pumps at extruders line A and B)

FABRICANTE DEL EQUIPO E INDENTIFICACION

H. Krantz Aachen, Germany Pumps type 4215

Each pump directly coupled to motor on

Cast Iron base.

Four inch diameter outlet. Eight 3" valves piped up. Station located north of extruder "B" location. Used for hot

water to extrusion presses.

FUNCTION

Hot water circulation to extruders.

EQUIPO AUXILIAR INCLUIDO

none

				MOTORS
LOCATION	KW			MOTORES
DEL	4.4	1730 rpm	Schorch	(pump No.

see 4

4.4

1730 rpm Schorch (pump No. 1) 1730 rpm Schorch (pump No. 2)

PHYSICAL STATE ESTADO FISICO

The equipment is in bad condition.

Valve stem threads are corroded and valves are jammed.

Piping and manifolds are not insulated.

Pipes and pumps are corroded.

Motors are not connected to electrical supply.

RESIDUAL VALUE VALOR RESIDUAL

RD\$

400

PARTS MISSING AND RESTORATION REQUIRED. PIEZAS PALTANTES Y RESTAURACION NECESARIA

Disassemble station, remove corrosion, replace necessary valves, reassemble and paint.

Rework pumps and lubricate equipment.

Bake and rework motors.

Install starters and run cables to motors.

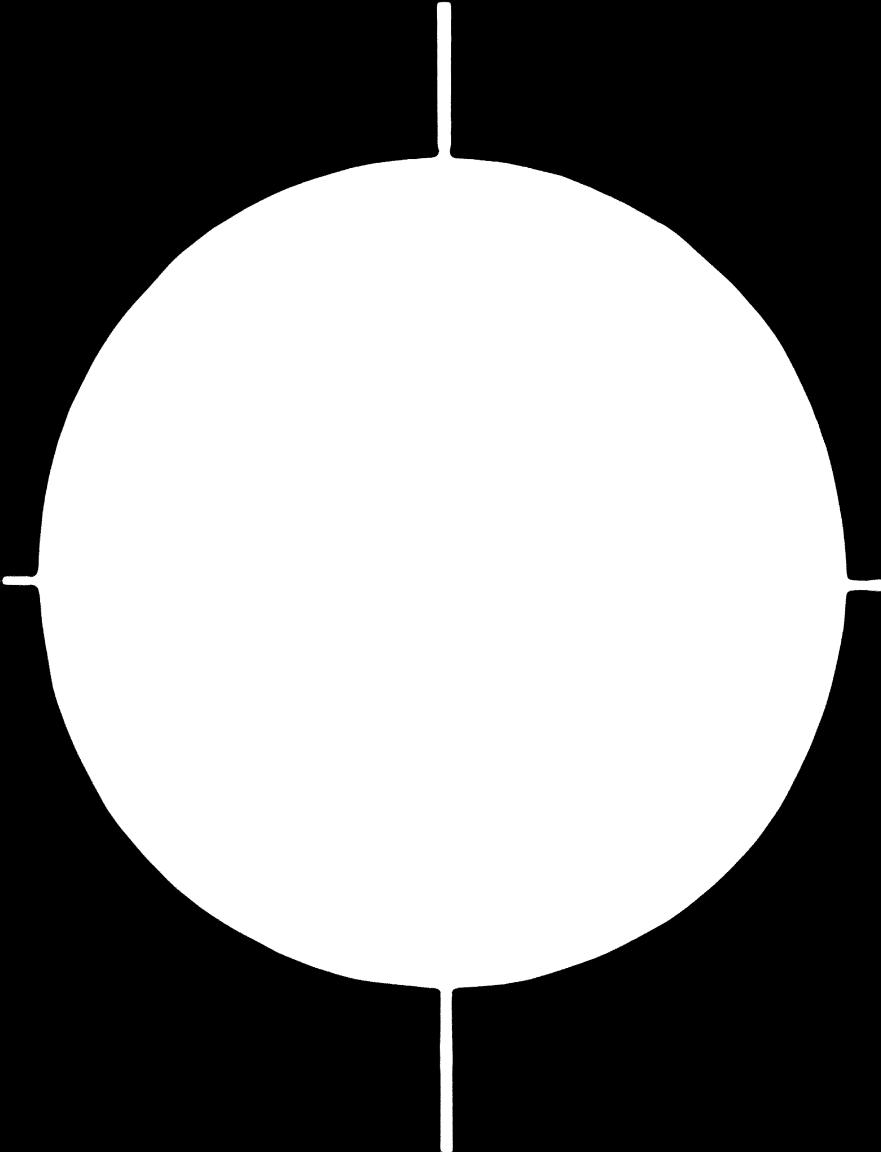
Insulate all manifolds and piping.

RESTORATION COST COSTO DE RESTAURACION

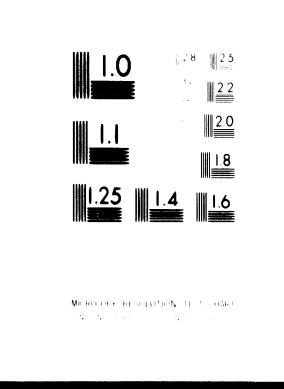
RD\$

C-925





4 OF 4





ROUGHENT INVENTORY AND EVALUATION RIVENTARIO DE EQUIPO Y EVALUACION

150

SISTEMA OF PRODUCTO

Plant Services

NOMBRE DEL EQUIPO

Electrical Panel #7
Distribution board for the boiler house

PRESIDENT MANUFACTURER AND IDENTIFICATION PRESIDENT PROPERTY OF THE PROPERTY O

Siemens - Schuckertwerke Erlangen, Germany

FUNCTION PUNCTON

Fusegear

EQUIPO AUXILIAR INCLUIDO

STARTER LOCATION DECACION

KW

MOTORES

Motors are listed with mechanical equipment,

PHYSICAL STATE

Metal clad panel 156 cm X 200 cm X 45 cm contains main switch, fuses, starters, bus bar and terminals. Panel is in good condition. Surface badly rusted. Hot water, pump controls are included.

ALDUAL SEIDUAL

RD\$

400

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Six-200A fuses, 3-100A fuses, and 14-25A fuses, are missing. Install fuses, remove rust and paint panel. Install cables to hot water pumps.

COSTO DE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

HOJA

SISTEM OR PRODUCT

Plant Services

NAME OF SOURMENT NOMBRE DEL EQUIPO

Electrical Panel #71

Air compressor control panel

PARTICANTE DEL EQUIPO E INDENTIFICACION

Electro Maschine Fabrik Krefeld, Germany

FUNCTION

Control air compressors and drive motors

EQUIPO AUXILIAR INCLUIDO

Compressor pressure regulators

STARTER LOCATION UNICACION

KW

MOTORES

Motors are listed with mechanical equipment

PHYRICAL STATE

Control panel contains circuit breaker, starters, push buttons, switches, relays, control transformer, and terminals. Panel and pressure regulators in good condition.

YALOUAL YALOUAL

RD\$

500

PARTE MISSING AND RESTORATION RECUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Controls apparently need no work but painting.

TOTATION

INVENTARIO DE EQUIPO Y EVALUACION

SHEET 152

SYSTEM OF PRODUCT

NAME OF EQUIPMENT

Plant Services

Substation Transformer

FAMICANTE DEL EQUIPO E INDENTIFICACION

Marcus Transformer Co., Inc. Rahway, New Jersey 2200 KVA 5.4 impedance type TLS Class OA 12470/480 V 3ph 60 cy. Ser 88237 1961 755 gal. oil

FUNCTION FUNCION

Voltage transformer

AUXILIARY EQUIPMENT INCLUDED

Primary disconnects and structure Substation fence and pad.

STARTER LOCATION USICACION DEL

none

KW

MOTORES

none

PHYSICAL STATE ESTADO FISICO

Two transformer cooling fins damaged by rifle bullets. Fins had been leaking and were repaired by iron cement or epoxy.

RESIDUAL VALUE VALOR RESIDUAL

RD\$

2500

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Remove damaged fins and replace. Remove rust and paint transformer, and equipment. Change oil and filter oil, if required. RESTORATION COST COSTO DE RESTAURACION

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

111

SISTEMA O PRODUCTO

Plant services

NOME OF SOLUTIONS

Substation Secondary Switchgear

PARICANTE DEL BOURG E INDENTIFICATION

Voight & Haeffner A. G. Frank furt M., Germany FNR 42-23789 3000 Amp Sp. No. 475-10543 500V A.C.

FUNCTION

Switch plant circuits

SOUTH AUDITARIA

Outgoing cable runs to distribution panels.

STARTER LOCATION LOCATION DECEMBER TO THE PROPERTY OF THE PROP KW

none

PHYSICAL STATE

General condition of metal clad switchgear is good. Metal is rusted and fuse holders are corroded in places. Some cables are grounded. Residual value includes cables in place.

RD\$

4000

PREZAS PALTANTES Y RESTAURACION NECESANA

Replace rusted top deck of metal clad gear. Replace rusted springs in air circuit breaker trip mechanism. All main outgoing fuses are missing. Replace fuses. Clean inside, remove rust outside and paint. Replace cooling air screen. Replace or repair grounded cables.

10.

RD\$

ROUBLEST INVENTORY AND EVALUATION

MET 154

STATEM OF PRODUCTO

Plant Services

MAME OF SOLUPMENT NOMENE DEL EQUIPO

Plant Fire System

PRINCAPTE BEL BOUNG E RICENTIFICATION

Manufacturer unknown

This is a combined domestic water and fire ring header system.

All underground mains are in place.

FUNCTION

To supply water and fire protection.

EQUIPS AUXILIAN INCLUSES

none

STARTER

**

MO FORE

none

none

ESTADO PISICO

Some hydrants are missing.
There are no hose stations.
There are no sprinklers in any buildings.
The installed equipment is in fair condition.

Market Mark

RD\$

2, 000

PIEZAS MILYANYSS V NESTAUNACION NECESANA

Purchase and install missing hydrants. Install hose and reels throughout plant. Install sprinklers in all buildings.

- 10 DE

RD\$

INVENTARIO Y EVALUACION DEL EDIFICIO

155 155

EVILDING CONSTRUCTION AND SIZE CONSTRUCCION Y TAMANO DE EDIFICIO

Building is 21 m.x 21 m. with high ceiling. Reinforced concrete columns with concrete block walls. Concrete floor. There is foundation provision for a second boiler.

BUILDING OR GROUNDS EDIFICIO O TERRENO

Boiler House and Air Compressor Building

ROOF CONSTRUCTION CONSTRUCCION DEL TECHO

Concrete slab roof.

VENTANAS, PUERTAS Y DIVERSOS

Door openings in two rooms are large enough for boiler parts to pass through. There is no steel work. No windows are in the boiler house.

RESIDUAL YALUR YALOR RESIDUAL
MEDIOUAL
RD\$
6000

	1
CONSTRUCTION AND RESTORATION REQUIRED	TION COSTO DE
Install fire resistant or steel doors in three openings.	
Install railings and stairways.	RD\$
Install toilet and washing facilities.	
Install stairway and platform for pith feeder.	
	3000

EVILDING INVENTORY AND EVALUATION INVENTARIO Y EVALUACION DEL EDIFICIO

MEST 156

BUILDING CONSTRUCTION AND SIZE CONSTRUCCION Y TAMANO DE EDIFICIO

Building 25 m. X 27 m. with a concrete block wall on two sides and sides of adjacent buildings for other walls.

BUILDING OR GROUNDS

Fiber Preparation
Building
(Plant #2)

ROOF CONSTRUCTION CONSTRUCCION DEL TECHO

Structural steel roof frame and corrugated transite roofing.

WINDOWS DOORS AND MISCELLANEOUS VENTANAS, PUERTAS Y DIVERSOS

Two steel doors for briquette trucks (swinging). Window louvres of wood on south side. The floor is concrete.

PHYS	ICAL	STATE
COND	CION	FISICA

Shell holes in concrete walls.

The building is poorly built.

The roof is shattered and missing from storms and shelling.

The steel door is in bad condition.

There are no lighting fixtures or circuits.

The floor is in satisfactory condition under machinery area.

The building walls and roof are worthless.

It does not protect the machinery from the elements.

RESIDUAL YALUE YALOR RESIDUAL

RD\$

none

CONSTRUCTION AND RESTORATION REQUIRED CONSTRUCCION Y RESTAURACION REQUERIDAS

Building must be completely rebuilt.

TION COSTO DE

RD\$

BUILDING INVENTORY AND EVALUATION INVENTARIO Y EVALUACION DEL EDIFICIO

BUILDING CONSTRUCTION AND SIZE CONSTRUCCION Y TAMANO DE EDIFICIO

Reinforced concrete columns. Concrete block walls. Concrete floor.

Building 75 m. X 75 m. with high middle bay and 4 floors over extruders.

BUILDING OR GROUNDS EDIFICIO Ó TERRENO

Main Production Building

(Plants 3, 4, 5, and 6)

ROOF CONSTRUCTION CONSTRUCCION DEL TECHO

Metal roof with tarpaper "built up" roof on top. "Truscon" Republic Steel roof girders.

WINDOWS, DOORS AND MISCELLANEOUS VENTANAS, PUERTAS Y DIVERSOS

Jalousie windows on north and south sides near roofs. Woodyard door is folding steel door.

PHYSICAL STATE CONDICION FISICA

All truck doors are practically inoperable. Shell holes in walls of 2nd and 3rd floor.

Roof metal is rusted through and roof leaks at many points.

Window sashes blown out by hurricane. Jalousie operators broken.

Staircase to 3rd and 4th floor are temporary wood.

Press pits have no drains. Electrical cable troughs have no water drains.

No floor drains near other presses for wash down, or for mixer area.

No sanitary facilities or drinking fountains available.

Building otherwise satisfactory condition.

RESIDUAL YALUE VALOR

RESIDUAL

RD\$

50,000

CONSTRUCTION AND RESTORATION REQUIRED CONSTRUCCION Y RESTAURACION REQUERIDAS

Purchase and install new truck doors.

Replace roof completely.

Remove rust from roof trusses and paint.

Replace windows with permanent glass or fiberglass louvers.

Install steel staircases and rails.

Install sump pumps in press pits.

Install floor drains for press areas and mixer area.

Install toilet and washing facilities on 1st and 3rd floors.

Install drinking fountains on every floor.

IESTORA-TION COST COSTO DE ESTAURACIÓ

RD\$

BUILDING INVENTORY AND EVALUATION INVENTARIO Y EVALUACION DEL EDIFICIO

MEET 158

BUILDING CONSTRUCTION AND SIZE CONSTRUCCION Y TAMANO DE EDIFICIO

Building is 27 m. X 70 m. (82 ft X 215 ft) about 20 ft high. Column line along longitudinal centerline. Reinforced concrete columns and concrete block walls. Concrete floor.

EDIFICIO O TERRENO

Almacen (warehouse locally called machine shop)

ROOF CONSTRUCTION CONSTRUCTION DEL TECHO

Roof is a flat reinforced concrete slab.

VENTANAS, PUERTAS Y DIVERSOS

Some window openings are provided.

There is no steel work in the building.

PHYSICAL	STATE	
CONDICION	FISICA	

The windows are blown out.

There is no provision for ventilation besides window areas.

The building is basically good construction but the east wall of the building is bulged out due to bagasse pressure.

The wall is sheared off at both easterly corners.

The roof is in good condition.

RESIDUAL YALUE YALOR RESIDUAL

RD\$

20,000

CONSTRUCTION AND RESTORATION REQUIRED CONSTRUCCION Y RESTAURACION REQUERIDAS

Furnish and install windows with glass or fiberglass panels. Provide ventilation for dust condition.

Rebuild east wall and provide steel or concrete beam reinforcement to upper walls.

RESTORA-TION COST DE RESTAURACION

RD\$

BUILDING INVENTORY AND EVALUATION INVENTARIO Y EVALUACION DEL EDIFICIO

BUILDING CONSTRUCTION AND SIZE CONSTRUCCION Y TAMANO DE EDIFICIO

Building is 27 m. X 54m. (84 ft X 165 ft), with reinforced concrete columns 5.35 m. (16 ft - 4" c-c). Approximately 20% of area is subdivided into offices, showers, and toilet rooms. Floor is concrete.

BUILDING OR GROUNDS EDIFICIO O TERRENO

Taller (Workshop) (Used as warehouse)

ROOF CONSTRUCTION CONSTRUCCION DEL TECHO

Roof is a flat reinforced concrete slab.

WINDOWS, DOORS AND MISCELLANEOUS VENTANAS, PUERTAS Y DIVERSOS

There are four 10 ft roll up doors.

PHYS	CAL	STATE
CONDI	CION	FISICA

The south wall of the building is badly cracked. The wall has settled and the south-east corner is sheared. The east wall has settled and bulged at a 5" wide expansion joint mid length of the building.

All the window sashes are destroyed.

The four roll up doors are broken and useless.

The toilet rooms and showers are rudimentary and temporary.

The building is in bad condition.

The office facilities are adequate.

RESIDUAL YALUE VALOR

RESIDUAL

RD\$

5,000

CONSTRUCTION AND RESTORATION REQUIRED CONSTRUCCION Y RESTAURACION REQUERIDAS

Rebuild the south wall and the east wall of the building. Determine cause of settling and rebuild foundation in that area.

Provide steel or concrete beam reinforcement to all upper walls.

Provide fiberglass windows in steel or wood sash.

Purchase and install steel overhead doors.

Provide new toilet rooms and showers.

Provide ventilation fans to discharge dust and a dust collector system.

TION COSI

COSTO DE **PSTAURACIÓ**

RD\$

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 142

HOJA

SISTEMA O PRODUCTO

Plant Services

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Hot Water Pumping Station (2 Pumps at Presses)

FABRICANTE DEL EQUIPO E INDENTIFICACION

H. Krantz

Aachen, Germany

Pumps type 4215

Each pump is directly coupled to motor

on Cast Iron base.

Six 3" diameter valves and four 2" diameter valves. Station used to supply hot water to presses and is located near the

presses.

FUNCTION

Hot water circulation to presses.

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

none

STARTER LOCATION UNICACION	KW	MOTORS MOTORES
DEL	4.4	1730 rpm Schorch (pump No. 3)
see	4.4	1730 rpm Schorch (pump No. 4)
below		

PHYSICAL STATE ESTADO FISICO

Valve stems are corroded and valves are jammed.

Pipes and pumps are corroded.

Piping is installed back to extrusion area.

Piping and manifolds are not insulated.

The equipment is in bad condition.

Motors are not connected to electrical supply.

RESIDUAL VALUE VALOR RESIDUAL

RD\$

500

PARTS MISSING AND RESTORATION REQUIRED PIEZAS FALTANTES Y RESTAURACION NECESARIA

Disassemble station, remove corrosion, replace valves necessary, reassemble and paint.

Rework pumps and lubricate equipment.

Bake and rework motors.

Install starters and run cables to motors.

Insulate all manifolds and piping.

COSTO DE LESTAURACION RD\$

RESTORATION COST

BUILDING INVENTORY AND EVALUATION
INVENTARIO Y EVALUACION DEL EDIFICIO

MEET 160

BUILDING CONSTRUCTION AND SIZE CONSTRUCCION Y TAMANO DE EDIFICIO

BUILDING OR GROUNDS

Does not apply.

Roads, Sidewalks, and Fencing.

ROOF CONSTRUCTION CONSTRUCCION DEL TECHO

Does not apply

WINDOWS, DOORS AND MISCELLANEOUS
VENTANAS, PUERTAS Y DIVERSOS

All plant roads are laid out and curbed and have the crushed rock base installed, but no surfacing. The plant is completely fenced with an 8 ft. chain link fence with barbed wire on top.

PHYSICAL STATE

No sidewalks are placed except in front of "Taller". The plant roads are not black topped.

The fencing is in good condition.

RESIDUAL YALUE YALOR RESIDUAL

RD\$

4,000

CONSTRUCTION AND RESTORATION REQUIRED CONSTRUCCION Y RESTAURACION REQUERIDAS

Complete plant sidewalks.

Paint plant fencing where required.

RESTORA-TION COST DE COSTO DE

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

MISCELLANEOUS EQUIPMENT- NOT INSTALLED EQUIPOS DIVERSOS - NO INSTALADOS AHORA

~~~~~	EGUIPOS DIVERSOS -NO INSTALADOS		
QUANTITY	EQUIPMENT AND DESCRIPTION	RESIDUAL	RESTORA'N
CANTIDAD	EQUIPOS Y DESCRIPCION	VALUE	COST
		VALOR	COSTO DE
		RESIDUAL	RESTAURACION
		RD\$	RD\$
2	Axial Ventilator Fans 5 ft diameter X 5 ft high. Motor 4 KW 840 rpm. Fan in fair condition. Manufacturer, K. Merz. Bake and rework motor. Remove rust, and paint. Install in plant in high bay over presses. Include hood and duct.	4 00 (2)	4 000 (2)
1	Multistage Pump: Type 4406 800 literamin. 3400 rpm. (Manufacturer) Gotthard Allweiler Pumpenfabrik A.G. Complete with motor on a C.I. base. Motor: 48KW 3540 rpm 57 amp. Type KW 1051/2M Use in mill unknown, do not restore.		none
1	Centrifugal fan: Type 72.7, direct drive. Manufacturer, Hans Kohl. Motor: 7.5KW 1400 rpm. The impellor is badly corroded. No use for the fan in the mill. Do not restore.	100	none
1	Resin Pump: Manufacturer unknown. Pump mounted with motor on C.I. base Motor: 3.3KW 1710 rpm. The condition of the pump is fair. Dismantle, clean, remove rust, reassemble, and paint. Bake and rework motor. Use in mixer room.	100	300

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

MISCELLANEOUS EQUIPMENT - NOT INSTALLED EQUIPOS DIVERSOS - NO INSTALADOS AHORA

		ANORA	
QUANTITY CANTIDAD	EQUIPMENT AND DESCRIPTION EQUIPOS Y DESCRIPCION	RESIDUAL VALUE	RESTORA'N COST
CANTIDAD		VALOR	COSTO DE
		RESIDUAL RDS	RESTAURACION RDS
		KU3	
3	Oil Burner Units: Each burner is on a mounting plate. Manufacturer, Oertli A.G., Zurich, Switzerland. These are in good condition. Use two for air heater dryers in fiber pre-		
	paration area after cleaning and painting. Bake and rework motors. Restoration cost is indicated under air heaters Line A and Line B. Save third unit for a		
	spare.	300	none
3	Mixers for Resin Tank: These are portable units with a 4 ft shaft. One mixer has a bent shaft. Repair or replace this shaft. Bake and rework motors. Mixers are in good condition. Use for mixer area.	75	300
1	Vibrating Feeder:		
	Feeder No. MRI 933 450/300 - 15.00 Manufacturer, Jöst GMbH., Westfield, Germany. This feeder is identical to those used above the mixers on Lines "A" and "B". The feeder is in good condition and can be used on The Moulded Products line. Remove rust, and paint.	400	100
1	Hoist: Hoist for "I" beam with geared trolley and hoist motor, hoisting sheave, and block. Estimated capacity is 10 Tons. The unit is still crated. The hoist is in good condition and can be used by maintenance department or over a shipping and receiving area.		
	No restoration is required.	100	none

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

MISCELLANEOUS EQUIPMENT - NOT INSTALLED EQUIPOS DIVERSOS - NO INSTALADOS AHORA

QUANTITY	EQUIPMENT AND DESCRIPTION	RESIDUAL	RESTORA'N
CANTIDAD	EQUIPOS Y DESCRIPCION	VALUE	COST
		VALOR	COSTO DE
		RESIDUAL	RDS
		RUS	
1	Electric Motor:		
•	45KW, 1150 rpm, 82 amp., 440V A.C.,		
	drip proof frame. There is a 10" diameter pulley for 9 V-		
	belts mounted on the shaft.		
	This motor is in fair condition.		
	Bake and rework motor and use in the		
	plant or keep for a spare for hammer-	100	300
	mills.	100	300
3	Electric Motors:		
	37KW, 1765 rpm, Type K 1051/4M T.E.F.C. Schorch.		
·	The motors are in good condition.		
	Bake and rework motor and use for		
	hammermill installations (Line B) and		
	(Ozama).		
	Restoration costs are included under	450	none
	those headings.	130	
		<u> </u>	
1	Electric Motor:		
	50KW, 1760 rpm, T.E.F.C. Schorch.		
	Motor is in good condition. Bake and rework motor and use for		
	spare.		
		150	250
		1	1
2	Centrifugal Fans:		
_	24" diameter housing X 10" wide with		
	integral 1.5 HP motor.		
	Manufacturer, Oertli A. G., Zurich,		
	Switzerland. Hold without restoring as spares for		
	burners.		
	The fans are in fair condition.		
		50	none
		1	1

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

MISCELLANEOUS EQUIPMENT - NOT INSTALLED EQUIPOS DIVERSOS - NO INSTALADOS AHORA

EQUIPOS DIVERSOS - NO INSTALADOS AMORA				
QUANTITY CANTIDAD	EQUIPMENT AND DESCRIPTION EQUIPOS Y DESCRIPCION	RESIDUAL VALUE	RESTORA'N COST	
		VALOR RESIDUAL	COSTO DE	
		RD\$	RDS	
	Lot of prefabricated piping spool pieces various sizes and lengths; flanged. Most of them are badly corroded. Location piece marks are missing. Clean up only those pieces that can be readily used in plant.	300	200	
	Lot of structural steel lengths. They are cut, welded, and drilled, but their use is unknown. Scrap value only; do not restore.	100	none	
1	Lot of Transite asbestos composition pipe 5" diameter. Store for water line maintenance.	300	none	
1	Lot of furnace insulating block in good condition. Size 9.5" X 9.5" X 7" Use for Hot Water Boiler as is.	600	none	

INVENTARIO DE EQUIPO Y EVALUACION

MISCELLANEOUS EQUIPMENT - NOT INSTALLED

EQUIPOS DIVERSOS -NO INSTALADOS AHORA

EQUIPMENT AND DESCRIPTION RESTORA'N RESIDUAL QUANTITY COST VALUE EQUIPOS Y DESCRIPCION CANTIDAD COSTO DE VALOR **NESTAURACION** RESIDUAL RDS 201 Lot of fire brick in good condition. 1 Size 7.5" X 4" X 2.5" Use as is for Hot Water Boiler 500 none Crates of steel cauls for plywood platen 7 Approximately 4 ft X 8 ft. 10 to 15 cauls per crate. Some cauls are too rusty for use. Remove rust from other cauls and polish surface. 420 210 (Lot) (Lot) Drums of DIELDRIN WP 50 22 20 gallon size drums. It is believed this chemical is ruined. none none Double basket strainer with switching 1 valve. 4" size. Strainer is in fair condition. Clean and use. 50 50

INVENTARIO DE EQUIPO Y EVALUACION

MISCELLANEOUS EQUIPMENT - NOT INSTALLED EQUIPOS DIVERSOS - NO INSTALADOS AHORA

QUANTITY CANTIDAD	EQUIPMENT AND DESCRIPTION EQUIPOS Y DESCRIPCION	RESIDUAL YALUE VALOR RESIDUAL RDS	RESTORA'N COST COSTO DE RESTAURACION RDS
2	Full spools of electrical cable 1286 Kg. net weight each reel. Cable in good condition. Use for Mixer installation, and Moulded Products. Installation cost is included under Panel 4 mixer area.	900	none
40	Bales of fiberglass pipe insulation with chicken wire reinforcement. This material is in good condition. Use as is for hot water pipe insulation.	200	none
1	Lot of miscellaneous hydraulic piping spool pieces. There are no identifying piece marks, and the piping is corroded. Do not use for hydraulic piping.	none	none
1	Crate of log tongs for the woodyard crane. The tongs are in fair condition. Clean up and paint. Use for the woodyard.	50	25

INVENTARIO DE EQUIPO Y EVALUACION

MISCELLANEOUS EQUIPMENT - NOT INSTALLED

QUANTITY	EQUIPOS DIVERSOS - NO INSTALADOS EQUIPMENT AND DESCRIPTION	RESIDUAL	RESTORA'N
CANTIDAD	EQUIPOS Y DESCRIPCION	YALUE YALOR RESIDUAL ROS	COSTO DE
1	Lot of miscellaneous pressure and temperature gauges. Many of them are in the original boxes. Some gauges are broken or disassembled Use the equipment that can be used. Assemble gauges in good condition and use. Restoration is included in plant restoration costs where applicable.	200	none
	Lot of weldneck flanges sizes l inch to 6 inch diameter. Restore those that can be used for various piping applications by removing rust. Restoration cost is included in plant restoration costs where applicable.	20	none
1	Lot of weld ells and tube bends standard weight. Restore the pipe fittings that can be used for piping in the plant by removing rust. Restoration cost is included in plant restoration costs where applicable.	•0	non e
20	Drums of powdered resin. This material has been spoiled and will be discarded. Drum salvage value only.	90	non€

INVENTARIO DE EQUIPO Y EVALUACION

MISCELLANEOUS EQUIPMENT - NOT INSTALLED

CANTIDA D	EQUIPMENT AND DESCRIPTION EQUIPOS Y DESCRIPCION	RESIDUAL YALVE YALOR RESIDUAL ROS	RESTORA'N COST COSTO DE ROS
40	55 gallon drums of liquid resin. This material is probably spoiled and will be discarded. Drum salvage value is doubtful.		
		none	none
1	Lot of flanged pipe valves. These are metric standards sixes and		
	pressures.		
	Restore those valves that can be used		
	for plant piping by disassembly and		
	cleaning. Restoration cost is included in plant		
	restoration costs where applicable.		
	See below		
	Touivalent Size Pressure pai		
5	2 1/2" globe O.S. and Y. High-pressure	I	
15	1" globe O.S. and Y. 125		
25 8	2" globe O.S. and Y. 125 1" check - 125		
25	2" globe - 125		
2	4" globe - 125		
4	5" globe - 125		
4	6" globe - 125	120	
1 3	6" check - 125 8" globe - 125	120	none
1	Lot of miscellaneous check, angle, and special valves in mixed sizes. Restore those valves that can be used for plant piping by disassembly and cleaning. Restoration cost is included in plant restoration cost where applicable.	30	none

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

MISCELLANEOUS EQUIPMENT - NOT INSTALLED

EQUIPOS DIVERSOS - NO INSTALADOS AHORA

EQUIPOS DIVERSOS - NO INSTALADOS AHORA			
CANTIDAD	EQUIPMENT AND DESCRIPTION EQUIPOS Y DESCRIPCION	RESIDUAL VALUE	RESTORA'N COST
		VALOR	COSTO DE
			RESTAURACION
		RDS	RD\$
1 .	Base and Frame of Briquettor SMG Type 412 for 2 3/4" Briquette	none	none
		In Puerto Rico	Does not apply
	Lab. Testing Machine 10 cycle Kottermann 6 ft. x 3.5 x 3.5 ft. Panel is rusted. Outside sections are stainless steel.	none In Puerto Rico	none Does not apply
3	Hot plate for Extruder In single crate	none In Puerto Rico	none Does not apply
1	Control Panel for Moulding Presses Press wasseranlage 6 ft. x 7 ft. x 16 inches. The panel is in good condition.	none In Puerto Rico	none Does not apply

INVENTARIO DE EQUIPO Y EVALUACION

SHEET.

SISTEM OF PRODUCTO

Plant Services

NAME OF EQUIPMENT

Hot Water Pumping Station (2 pumps at extruder location line C)

FAUNTMENT MANUFACTURER AND IDENTIFICATION FAUNTE DEL EQUIPO E INDENTIFICACION

H. Krantz

Aachen, Germany

Pumps type 4215

Each pump directly coupled to motor on

Cast Iron base.

Four inch diameter outlet. Eight 3" valves piped up. Station located north of extruder "B" location. Used for hot water

to extrusion presses.

FUNCTION

4.4

4.4

Hot water circulation to extruders

AUXILIARY EQUIPMENT INCLUDED
EQUIPO AUXILIAR INCLUIDO

none

STARTER LOCATION UNICACION	KW	MOTORES MOTORES
DAIL TON		

DEL ATTANCADOR Bee

below

1730 rpm Schorch (pump No. 5) 1730 rpm Schorch (pump No. 6)

PHYSICAL STATE ESTADO FISICO

Valve stem threads are corroded and valves are jammed. Piping and manifolds are not insulated.

Pipes and pumps are corroded.

The equipment is in bad condition.

Motors are not connected to electrical supply.

VALUE VALOR RESIDUAL

RD\$

400

PARTS MISSING AND RESTORATION REQUIRED.
PIEZAS FALTANTES Y RESTAURACION NECESARIA

Will not be used; do not restore.

Starters are not required.

RESTORATION COST COSTO DE

RD\$

none

EQUIPMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

MISCELLANEOUS EQUIPMENT - NOT INSTALLED EQUIPOS DIVERSOS - NO INSTALADOS AHORA

f	EQUIPOS DIVERSOS - NO INSTALADOS AHORA			
QUANTITY	EQUIPMENT AND DESCRIPTION EQUIPOS Y DESCRIPCION	RESIDUAL VALUE	RESTORA'N COST	
CANTIDAD	EGOIPOS I DESCRIPCION	VALOR	COSTO DE	
		RESIDUAL	RESTAURACION	
		RDS	RD\$	
10 .	Large Valve for Moulding Press Size 18" x 24" x 16"	none	none	
	The exterior of the valve is badly rusted.			
		In	Doe#	
		Puerto	not	
		Rico	apply	
	Miscellaneous pipe fittings			
	Includes 4" x 8" screen.	none	none	
		In	Does	
		Puerto	not	
		Rico	apply	
1	Electrical Distribution Panel			
	36" wide x 72" high.	none	none	
		In	Does	
		Puerto Rico	not apply	
		RICO		

APPENDIX II

Domsuisa Equipment Operating Manuals Available at the office of the Corporacion Dominicana de Empresas Estatales.

INDUSTRIAL DOMINICO SUIZA, C. POR A. Schedule of Machinery Instruction Manuals Available at the CORDE Offices, Santo Domingo

- 1. RFR Lathe Furnier Schülmachine GSA (RFR = Fleck, Ritter and Roller Berlin N 20)
- 2. RFR MSE-27 Guillotina (clipper)
- 3. RFR type LSZ Guillotina Neumatica
- 4. RFR DV-27 -Veneer Reel
- 5. RFR Glue Spreader
- 6. RFR Lathe 12 Pa
- 7. RFR Knife Grinder
- 8. RFR Veneer Jointing Machine
- 9. Winkle Grid Casting Machine
- 10. Winkle Grid Pasting Machine
- 11. Fris Stuttgart Veneer Splicer
- 12. Dolmar Saw Chain Instructions
- 13. Dolmar Schleifapparate
- 14. Bottcher and Gessner Lubrication Chart
- 15. Schorch Motor Instr Schorch-Werke Ag Rheydt

- 16. Oertli Oil Preheater
- 17. Brenner (Johnson Oil Burner)
- 18. S.M.G. Wood Construction (pre-fabricated houses)
 Instruction Manual
 S.M.G. = Schweizerische Metallurgische Gesellschaft
- 19. S.M.G. Bagasse Wall Board Plant
- 20. S.M.G. Home Building
- 21. Gutor Verteilanlangen Ag. Dottikon Wiring Diagram
- 22. Voigt and Haeffner Frankfurt Am Main Electrical Instr. 3000 Amp Interrupter
- 23. F.E. Myers Pump Parts
- 24. Klein Schanzlin and Becker
 Sump Pump and Electrical Starter
- 25. Demag Hoist Parts List Slip Ring Motor Instr
- 26. Drais Furnierleinmischer SLS 150
- 27. Fritsbarth O. H. G. Loln-Kalk Ray Oil Burner
- 28. Rapid Maschinenbau Hausch and Kammerer
- 29. Siemens Motors
- 30. Mars Maschinenfabrik Ruegger Wiring, Brake and Hoist
- 31. Bearbeitungskunde Machine Tool Use
- 32. Demag Air Contractor (Wissneth and Co. K.G.)

- 33. RFR Furmer and Sperrhols Maschinen (Veneer Edge Miller) #13F27
- 34. Becker Van Hullen Krefeld Handling Emulsions
- 35. Single Table Cut-off Saw with Moving Table "Altendorff" Mach. Nr. 61-3-22, 61-3-21
- 36. "Holsher" Vorschubapparat Type ETZ
 Karl M. Reich, Maschinenfabrik, Nurtingen, Wurttenberg
- 37. "Stehle" Starr Frasmaschine
 Modell St F2 #3059
 Vertical Router Machine #3060
 #3061
- 38. "Wittig" Air Compressor Type DVN 45
 Machine No. 738.040/29
 270 M³/HR at 8 Atm.
- 39. H. Krants Warmetechnik Aachen Hot Water Circulation Dump
- 40. Böttcher and Gessner Hamburg Drum Sanding Machine
- 41. "Adolf Friz Maschinenfabrik Stuttgart"
 Modell ZMP 3
 Veneer Taping Machine
- 42. "Heinrich Hüllhorst Maschinenfabrik"
 Double Cut-off Saw Table
 Type DH 50
- 43. "Adolf Friz" Maschinenfabrik Mod. LAg Vierwalzen - Leimauftragmaschine (Glue Spreader)
- 44. "H. Krants" Aachen
 Operating Instructions for Pressurised Hot Water System

- 45. "G. Joos" Maschinenfabrik Pfalsgrafenweiler Hydraulic Press Single Opening HP 70S Machine #904
- 46. "W. Stehle" Memmingen Bazern Milling Machine Model STF 3
- 47. "B. Raimand" Maschinenfabrik und Eisengreberel Freiburg im Breisgan - St. Georgen
- 48. Automatische Vielblattkreissage Mod KBUMa
- 49. Globiboard Extrusion Press

 Manufacturer will supply instruction manual upon request.

APPENDIX III

Notes to the Summary Balance Sheet Presented in Exhibit D of the Report.

Source: Audit of Domsuisa's Financial Position as of December 31, 1967, by Corporacion Dominicana de Empresas Estatales.

INDUSTRIAL DOMINICO SUIZA, C. POR A. Improvements and Work in Process As of December 31, 1967

Improvements and Work in Process - Buildings(a) RD\$642,828.72 RD\$ 595,789.47

Less Work Scheduled to be Done (-)14,095.42

Less Indemnification Received, Explosion (-)32,943.83

Improvements and Work in Process - Machinery(b) 3,196,586.87

Miscellaneous Fixed Assets RD\$3,805,517.95

(a) This figure includes RD\$482,261.14 worth of building contracts let out. It is not known whether these contracts were completed and accepted by Domsuiza's management.

We have an inspection of the work completed made by Engineer Jose E. Garrido of the Urban Appraisal Section of the Banco Agricola on March 21, 1962. As of that date, construction valed at RD\$468, 282.33 had been completed and work totalling RD\$13, 802.79 was yet to be completed.

(b) This item represents in its entirety contracts made between Dominico Suiza and the Swiss Metallurgical Corporation. It has been difficult to prove the equipment supplied under these contracts as part of the machinery has been installed and the remainder in the process of installation. As per a letter dated September 30, 1963 from the Swiss Metallurgical Corporation to the Banco de Credito Agricola requesting legal recourse, it has been determined that a large part of the machinery was never unloaded, therefore this item is subject to an adjustment after the inventory and appraisal being made by the Technical Department of CFI.

INDUSTRIAL DOMINICO SUIZA, C. POR A. Schedule of Deferred Charges As of December 31, 1967

Experimentation Expenses	RD\$ 13,342.06
Non Productive Expenses	183,340.24
Variations and Inventories by Adjustment	7,415.04
Other Deferred Expenses	1,289.67
Constitution and Organization Expenses (a)	460,446.42
	RD\$665,833.43

(a) Constitution and Organization

Accounts	Book Balance 1/31/66
Salaries	RD\$122,399.95
Social Security	1,315.25
Stationery and Office Supplies	4,767.92
Communications	2,717.67
Travelling Expenses	13,558.85
Entertainment	5, 147. 47
Donations and Bonuses	1, 162. 76
Water and Light	2,103.77
Advertising and Publications	8,955.17
Vehicle Maintenance and Repairs	16,903.01
Bank Commissions	4,093.01
Professional Fees	7,339.50
Easter Bonus	12,084.18
Legal Expenses and Taxes	10,479.50
Wages and Adjustments	38, 255. 54
Other Insurance	31, 729, 17
Notices and Retirements	17, 967. 44
Sundries	12, 765, 83
Installations Maintenance	1, 286. 91
Adjustments and Inventories	3, 738. 72

RD\$460,446.42

INDUSTRIAL DOMINICO SUIZA, C. POR A. Accounts Payable to Suppliers As of December 31, 1967

Supplies .	Balance as per Statements of Accounts	
Dalmau Santos, C. por A.	RD\$ 231.55 4,537.84	
Importadora Tropical, C. por A.	•	
Ramca, C. por A.	1,360.10	
The Shell Co., (West Indies)	4,502.94	
Ferreteria Manrique, C. por A.	439.80	
Navarro Campora	136.00	
M. Vela German, C. por A.	208.65	
Mercantil Antillana, C. por A.	14.00	
Pintures Dominicanas, C. por A.	246.60	
Teodore Dias	1,595.00	
Editorial Duarte	63.75	
Casa Geraldino, C. por A.	15.00	
Armco Internacional & Co.	65. 00	
Dominican Motors Co., C. por A.	291.85	
Del Rio Motors Co., C. por A.	18.20	
Ferreteria Villa, C. por A.	480.80	
M. Fernandez Gonzalez, C. por A.	889.37	
Ferreteria Americana, C. por A.	2,952.11	
Fundicion Alamo, C. por A.	23.00	
Repuestos, C. por A.	91.15	
Editorial del Caribe, C. por A.	721.25	
Materiales de Construccion	72.50	
A. Pineyro, C. por A.	11.77	
Quisqueya Industrial, C. por A.	605.25	
Dominguez Badajer, C. por A.	5.90	
Caribean Motors Co., C. por A.	55.00	
	42.00	
Litografia Ferrua, C. por A. Moises A. Pellerano	130.00	

SOURMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

SHEET 144

SYSTEM (38	PROC	WCT
BISTEMA	Ō	PROD	UCTO

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Plant Services

Hot Water Storage Tanks (two)

FABRICANTE BEL EQUIPO E INDENTIFICACION

Manufacturer unknown Each tank is 6 ft. in diameter X 16 ft long.

Tanks are insulated and are mounted

on cradles.

The tanks were used for test purposes.

FUNCTION

Store hot water for plant processes.

EQUIPO AUXILIAR INCLUDED

none

STARTER LOGATION USICACION DEL

none

KW

MOTORES

none

PHYSICAL STATE

RESIDUAL VALUE VALOR RESIDUAL

Tanks are in fair condition. Leave in Line C position. RD\$

1500 (2)

PARTS MISSING AND RESTORATION REQUIRED PIEZAS PALTANTES Y RESTAURACION NECESARIA

Tanks used for test purposes only. Do not restore.

RESTORATION COSTO DE RESTAURACION

RD\$

none

Balance as per Statements of Accounts

Supplies RD\$ 62.50 Direccion Gral. de Serv. Tecnologicos 3,615.27 Industria de Asbesto Cemento, C. por A. 31.86 E & G Martin, C. por A. 10.00 Quisqueya Motors Co., C. por A. 11.80 Farmacia Mella, C. por A. 5.75 Farmacia Esmeralda 20.43 Nino Ieromazzo 227.25 Implementos y Maquinarias, C. por A. 1,437.14 Texaco Caribbean Inc. 1, 116.85 Esso Standard Oil, S.A. 2,767.70 Astilleros Dominicanos, C. por A. 35.00 Miguel Socias 5, 198.99 San Rafael, C. por A. 10,953.54 Ferreteria Read, C. por A. 48.68 Atlas Comercial Co., C. por A. 948.75 Alfareria Dominicana, C. por A. 24.95 E. M. Cabral 35.00 Casa Fina, C. por A. 50.00 Federico Baez Gomez 5.60 Ferreteria El Merino, C. por A 298.98 Industrial Construcciones 54.60 Casa Guzman, C. por A. 14.40 La Universal, C. por A. 3.90 Auto Partes, C. por A. 120.65 All American Cables and Radio 163.83 E. T. Heinsen, C. por A. 2, 348, 84 Banco de Credito Agricola e Industrial 45.00 Empresas Industriales, C. por A. 3.60 R. C. A. Comunication RD\$49, 467.44 Total Accounts Payable - Suppliers 2, 217.49 Less: Check #35 of 17-8-66 (Corde) Total RD\$47, 249.95

INDUSTRIAL DOMINICO SUIZA, C. POR A. Accumulated Interest to be Paid As of December 31, 1967

	Value	
	Sub-Total	Total
Corporacion Asucarera Dominicana Haina, C. por	<u> </u>	
Interest on Loan of RD\$350,000 of		
July 19, 1961 to November 1967	RD\$142,823.11	
Interest December 1967	1,218.86	144,042.08
Banco de Reservas de la Republica Dominicana		
Interest on Loan of RD\$75, 000 at 7%		
annually to December 31, 1967	26, 747.06	
Interest on Bank Overdraft of RD\$76,847.34		/
at 8% annually to December 31, 1967	28, 900, 71	55,647.77
Estado Dominicano		
Interest of Mortgage subscribed by Banco de		
Credito Agricola of the Dominican Republic		
Transferred to the Dominican State by Law		
No. 6106 of November 14, 1962		
Interest of 21-8-61 to 20-9-62 at 8% annually	26, 822.35	
Interest of 1-10-62 to 11-11-62 at 8% annually	3, 422.19	
Subtotal	30, 255. 54	
Adjustment	2, 497. 16	27, 758.38
Total		RD\$227,448,23

Note: Adjustment was made to this account due to the transfer of the account of the Banco de Credito Agricola of the Dominican Republic to Dominican State (see Daily entry #10 and 11).

INDUSTRIAL DOMINICO SUIZA, C. POR A. Banco de Reservas of the Dominican Republic As of December 31, 1967

	Value
Balance of overdraft as per bank state- ments as of January 31, 1965	RD\$76, 847 . 34
Balance of overdraft as per books January 31, 1965	76, 847.34

Note: Bank overdraft from December 1962, not covered by Credit Decuments supplied by the company, and charged with 8% interest annually, as per advice from the Main Banco de Reservas dated February 2, 1965.

INDUSTRIAL DOMINICO SUIZA, C. POR A. Advances Received As of December 31, 1967

	Value	
	Sub-Total	Total
Dominican Sugar Corporation, C. por A.		
Contracts dated September 6, 1961 made between the Sons of Rafael L. Trujillo Molina and the Dominican Sugar Corporation transferred to Domsuiza, advances made to Domsuiza at 7% legal interest.		
Bank Deposit Banco de Reservas on 20-9-60	RD\$ 60,000	
Covering payment Swiss Met on 25-9-60	160,000	
Bank Deposit Banco de Reservas 20-11-60	60,000	
Bank Deposit Banco de Reservas 20-11-60	68,000	RD\$350,000.00
Credit Note No. 8-53 of August 1966		141,051.53 RD\$208,938.47
Instituto Nacional de Auxilios y Vivinda		
Advances received against sale of prefabricated houses	5,000	
Bank Deposit - Banco de Reservas on 9-6-61	5,000	10,000.00
		RD\$218,948.87

INDUSTRIAL DOMINICO SUIZA, C. POR A. Fixed Liabilities Mortgages to be Paid - Dominican State As of December 31, 1967

Balance as per Books		RD\$350,000
Detail of Loan: Value of Check #3000-21-8-61	RD\$148,635	
Deducted Expenses: 18% Interest of 21-8-61 RD\$350 Receipt #1281 August 21, 1961 Commission Expenses on Loan Transaction Receipt #1281 August 21, 1961	700 665	150,000
Deposit with Restrictions: Second Entry Received Against Deposit to the Banco de Reservas on September 17, 1961 Third Entry Received Against Deposit to the Banco de Reservas	100,000	200, 000
on November 8, 1961	100,000	RD\$350,000

(A) This mortgage originated on August 21, 1961 at the Banco Agricola and Industrial of the Dominican Republic, and later was transferred to the Dominican State as per Law No. 6106 of November 14, 1962.

INDUSTRIAL DOMINICO SUIZA, C. POR A. Fixed Liabilities Swiss Metallurgical Corporation

As of December 31, 1967

	Value	
	Sub-Total	Total
Contracts Made	RD\$3,179,000.00	
Less Payments to Accounts	1,182,041.84	
Balance Payable per Contracts		RD\$1,996,958.16
Value of Prefabricated House Received	4,980.00	
Less Payment to Account	3,000.00	1 000 00
Balance Due		1,980.00
Balance in your favor		1,998,938.16
Less:		
Amount Advanced for Raw Materials 115		
The state of the s	, 368.98	
Balance to be Received	100, 631.12	
Value of Bagasse Board Shipped -		
Materials and Payments made on same	10, 326, 48	
Balance in our favor		110,957.60
		RD\$1,887,980.56

Note: In the amount of the Contracts made is included the sum of the value of the machinery and equipment to be supplied by SMC and the installation of same, however, the value of those not received and those which are in the process of installation were not deducted.

INDUSTRIAL DOMINICO SUIZA, C. POR A. Capital Stock Authorised and Outstanding As of December 31, 1967

Paid In Capital - Common

RD\$1, 125, 500.00

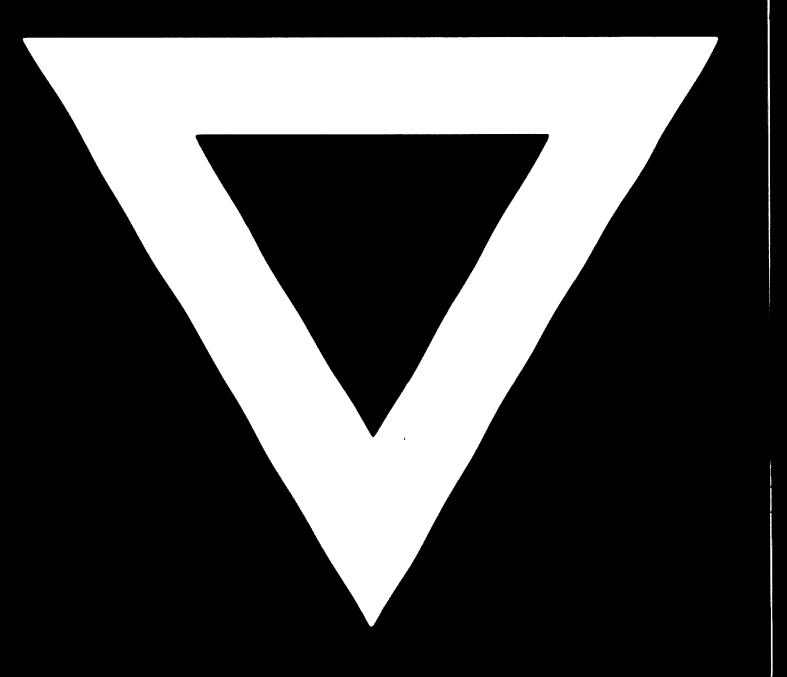
Authorised Shares Shares Not Issued RD\$2,500,000.00 1,374,500.00

Paid In Capital - Preferred

RD\$ 300,000.00

Authorised Shares Shares Not Issued RD\$ 500,000.00 200,000.00

C - 925



82.10.28

INVENTARIO DE EQUIPO Y EVALUACION

SHEET.

SISTEMA O PRODUCTO

Plant Services

NAME OF EQUIPMENT

Surface Grinder (Horizontal)

FABRICANTE DEL EQUIPO E INDENTIFICACION

Ritter, Fleck and Roller

Model MV29
12" bed 10 ft. long
Grinder is located in machine shop.

FUNCTION

Flat bed grinding operations

AUXILIARY EQUIPMENT INCLUDED
EQUIPO AUXILIAR INCLUIDO

none

STARTER LOCATION UNICACION DEL

on machine **KW KW** 5.5

.8

MOTORES MOTORES

1750 rpm Bauknecht (grinder motor) type SD 9 Brinkman (coolant pump) carriage motor - undertermined

PHYSICAL STATE ESTADO FISICO

The grinding wheels, hold down clamps, and jigs are missing.

The grinder is correded and in bad condition.

Because of the corrosion, the machine may never have its original accuracy.

RESIDUAL VALUE VALOR RESIDUAL

RD\$

700

PARTS MISSING AND RESTORATION REQUIRED
PIEZAS FALTANTES Y RESTAURACION NECESARIA

Complete overhaul of machine is required.

Disassemble, remove all corresion, and inspect for damage Replace any damaged parts.

Repaint and lubricate the grinder.

Bake and rework the motors.

RESTORATION COST COSTO DE RESTAURACION

RD\$

INVENTARIO DE EQUIPO Y EVALUACION

HOUA 146

SISTEMA O PRODUCTO

NAME OF EQUIPMENT NOMBRE DEL EQUIPO

Plant Services

Portable Air Compressor

FABRICANTE DEL EQUIPO E INDENTIFICACION

Ingersall Rand

Type 30 Model 22G4

Compressor and tank mounted on wheels.

FUNCTION

KW

KW

Portable air compressor

AUXILIARY EQUIPMENT INCLUDED EQUIPO AUXILIAR INCLUIDO

none

STARTER
LOCATION
DEL
DEL
ATTANCADO

on

machine

MOTORS

9 Amp. 1720 1 phase 220V.

PHYSICAL STATE ESTADO FISICO

The compressor is very old and is in bad condition.

It is estimated that 75% of the useful life is used.

RESIDUAL VALUE VALOR RESIDUAL

50

RD\$

PARTS MISSING AND RESTORATION REQUIRED
PIEZAS PALTANTES Y RESTAURACION NECESARIA

Clean and rework the compressor.

Bake and rework the motor.

RESTORATION COST

COSTO DE RESTAURACION

RD\$

NVENTARIO DE EQUIPO Y EVALUACION

NEVENA O PRODUCTO

Plant Services

E CEL ROURS

Portable Gantry Crane

MENT MANUFACTURER AND IDENTIFICATION. CANYE BEL EQUIPO E INDENTIFICACION

Merk Zurich, Switzerland Crane 5000 Kg rating Trolley moves on "I" beam Adjust leg height by pins.

FUNCTION

General lifting of light materials and equipment. EGUIFO AUXILIAN INCLUIDO

none

unknown

unknown (see below)

PHYSICAL STATE ESTADO PISICO

Hoist unit is missing.

Frame is in fair condition.

RD\$

150

PARTE MISSING AND RESTORATION REQUI

Replace hoist unit.

Remove rust, and paint.

RD\$

ROLLEMENT INVENTORY AND EVALUATION INVENTARIO DE EQUIPO Y EVALUACION

HOJA

SISTEMA O PRODUCTO

Plant Services

NAME OF SOURMENT NOMBRE DEL EQUIPO

Fork Lift Truck

FOLIPMENT MANUFACTURER AND IDENTIFICATION FABRICANTE DEL EQUIPO E INDENTIFICACION

Clark Equipment Company

Carloader 4000 lb.

FUNCTION FUNCTION

KW

KW

General lifting

EQUIPO AUXILIAR INCLUIDO

none

STARTER LOCATION UNICACION DEL

none

repair.

MOTORES

Gasoline engine

PHYSICAL STATE ESTADO FISICO

The fork lift is in very poor condition and hardly worth

RESIDUAL VALUE VALOR RESIDUAL

RD\$

400

PARTS MISSING AND RESTORATION REQUIRED PIEZAS PALTANTES Y RESTAURACION NECESARIA

Purchase new fork lift.

RESTORATION COST

COSTO DE RESTAURACION

RD\$

NVENTARIO DE EQUIPO Y EVALUACION

SHEET 149

STATEM OF PRODUCTO

Plant Services

NOMENE DEL EQUIPO

Air compressor

PASHCANTE BEL BOUFG E ROSWYFFICACION

Wilhelm Poppe

Kompressor #WP4220 250 atm. Two low pressure and two high pressure cylinders. Self cooled.

PUNCION

Air compressor
Machine unknown

EGUIPO AUXILIAN INCLUSO

none

STARTER LOCATION LOCATION DECEMBER

Unknown

MOTORA

19 Amp type KW 851/8M Schorch

PHYRICAL STATE

Compressor is rusty, and in fair condition.

RD\$

PARTS MISSING AND RESTORATION REQUIRED. PIEZAS PALTANTES Y RESTAURACION NECESAMA

Dismantle compressor, clean, reassemble and lubricate. Bake and rework the motor.

COSTO DE

RD\$