Puerto Rico

Correspondence
XR Waste Treatment

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
FIRST FEDERAL BLDG. OFFICE 404 SANTURCE, P. R.

February 29, 1972

Mr. A. W. Hanson
Digital Equipment Corporation
Maynard, Mass. 01754

Dear Mr. Hanson:

On my visit of February 25th to the Digital plant at San Germán I was told that the group from Ireland will be visiting the plant in a near future. I understand that this group want to see, among other things, the wastewater treatment facilities.

Please let me know if you want me to be there during their visit or if in anything I could be of help.

Sincerely yours,

Ramon M. Guzman

cc: Mr. Beaupre

BOX 1401 HATO REY, P. R. 00919

TEL. 722-2130

Puerto Rico

Correspondence
XR Special Hazards

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
FIRST FEDERAL BLDG. OFFICE 404 SANTURCE, P. R.

Februray 23, 1972

Mr. Roberto Sambolín
Digital Equipment Corporation
P. O. Box 106
San Germán, Puerto Rico

Dear Roberto:

I got a telex that Dick Reynolds sent you on February 15th concerning the threshold limit for chlorine. The instrument in the etcher room is set at 1 ppm, but the air sampler, according to the telex is set to measure at 3 ppm. According to the manufacturer, the alarm is set off when the concentration approaches 1 ppm.

It is possible that the differences are related to the units in which the chlorine is expressed in. The tolerance limit for chlorine is 1 ppm, but this is equivalent to 3 mg/M^3. Thus, the limit of 1 or 3 is correct depending on the unit that the chlorine is expressed. If the alarm is set at 1 ppm it is correct.

Sincerely,

Ramon M. Guzmán

cc: Mr. Beaupre
Mr. Hanson
Mr. Reynolds

cc file
Yes word.
Yes can you straighten this out. pls.
Arth.

BOX 1401 HATO REY, P. R. 00919 TEL. 722-2130

Puerto Rico

CC Correspondence
file XX Waste Treatment
Rod Mooney.

RAMON M. GUZMAN AND ASSOCIATES

February 20, 1972

Mr. Al Rimer
Camp, Dresser & McKee
One Center Plaza
Boston, Mass. 02108

Dear Al:

I received copy of the letter you sent to George Wood concerning the ffluent characteristics of the Digital process waters.

As the Aqueduct and Sewer Authority permits 2 mg/l of copper, tin, gold and iron, I believe that the Table should be revised to increase these metallic ions to the maximum limit permitted. These limits are defined in PRASA Regulation 477. I will send you a copy of these Regulations.

Although very seldom there are problems of low pH with the plant effluent, may be we should also change the pH range. The Table that you prepared indicates that pH should be maintained within the range 6.5-9.0, but the PRASA Regulations accepts wastes with pH range of 5.5-9.0.

Copper is being analyzed at the laboratory by colorimetry with a Hatch comparator. Although this method is good for control purposes, we should make at least one determination by more precise methods and compare the results. I talked to the Fomento people and they agreed to make some tests for the metallic ions at a nominal charge. I will let you know the results of these analyses.

Sincerely,

Ramon M. Guzman

cc: Mr. Beaupre
Mr. Hanson ✓
Mr. Quiñones
Miss Santiago
Mr. Wood

Puerto Rico

Correspondence
XR Waste Treatment

RAMON M. GUZMAN AND ASSOCIATES

cc
file
Rod Mooney.

February 20, 1972

Miss Lillian Santiago
Digital Equipment Corporation
P. O. Box 106
San Germán, Puerto Rico

Dear Lillian:

I talked to the people from Fomento and they agreed to run for us several determinations for copper in the process waters from Digital. Fomento utilizes atomic absorption methods, which of course if more sophisticated than the Hatch method being used at the Digital lab. Once we get the results we can see how the results compare. The Hatch method being used at present is very good for control purposes.

I will be at the Digital plant next Friday to collect the duplicate samples from the A.P., 5 and 10% rinse, etcher and plant effluent.

Sincerely,

Ramon M. Guzman

cc: Mr. Beaupre
Mr. Hanson
Mr. Quiñones
Mr. Riney

Puerto Rico

correspondence
XR Waste Treatment

digital

RAMON M. GUZMAN & ASSOCIATES

February 16, 1972

Mr. Hiram Quiñones
Plant Engineer
Digital Equipment Corporation
San Germán, Puerto Rico

On my visit of February 15th to the Digital plant I was checking the flow figures for the different sources of wastewaters. As Al Rimey indicated during his visit to the plant, it is necessary to revise the figures for flow that were reported in the Operators Manual.

As Al indicated, the figures for flow were estimates based on the Maynard operations, but it appears that the flow here is much less than the 101 gpm estimated. Main difference is that most of the operations using water are not conducted on a continuous basis. We made the estimates of water use, except for the etcher, as it was not in operation during my visit. As this is an important figure, may I suggest to make the estimates of flow next Thursday, as I will be at the plant on that day. Once we have this figure we will revise the Table included in the Manual.

We will also collect hourly samples of the etching wastewaters to determine the copper concentration. According to our figures, this is the most critical operation in respect to copper, as the flow in other operations is of a relatively small nature.

Sincerely,

Ramon M. Guzman

cc: Mr. Beaupre
Mr. Hanson
Mr. Rimey
Mr. Mackey

Puerto Rico

Correspondence
XR Waste Treatment

RAMON M. GUZMAN & ASSOCIATES
Consulting Sanitary Engineers
First Federal Bldg.,Office 404

PROJECT: Digital Equipment Corporation
San Germán, Puerto Rico

PROGRESS REPORT

Date of Visit: February 15, 1972

1. Analysis of wastewaters source were as follows:

Source	Cu in mg/l	pH
Ammonium Persulfate	25	---
5% Acid Wash	10	2.0
10% Acid Wash	3.5	0.8
Striker Rinse	10	---
Etcher	55	0.85
Wastewater Effluent	2.3	8.35
Mixed Effluent	2.3	8.2

Observations: Etcher was not in operation. On next visit hourly samples of etcher wastewater will be collected and analyzed for Copper and pH.

pH of the wastewater plant effluent seems to be most of the time within the limits permitted by PRASA Regulation 477 for admittance of wastewaters to the sanitary sewerage system.

Biggest source of copper-ion is the etcher operations. Copper from other sources is small, mainly because of the low volume of wastes.

Copper content in wastewaters has gone up to about 15 mg/l when the etcher is in operations.

PROGRESS REPORT

2. Volume of wastewaters from each source will be measured next week. The Table on the Operators Manual will be revised to adapt it to the local operations. It appears that the estimated 101 gpm is much higher than the real flow.

3. Instrumentation

A contract was signed to repair the instruments for pH. It is expected that the job will be completed by the end of this month.

4. Escape of Chlorine

There was no noticeable odor of Chlorine. Etcher was not in operation.

5. Industrial Hygiene Survey

An industrial hygiene survey will be conducted during the first week of March. The survey will be conducted by these Associates.

6. Concentration of Copper

It is estimated at this time that the etcher operation utilizes about 50 gpm for 6 hours, with a concentration of about 55 mg/l Copper. Measurements and analyses will be conducted during next week to obtain more exact figures. At the same time, samples of the plant effluent will be analyzed.

7. Effects on Activated Sludge

It is very important to find ways to reduce the copper concentration going into the wastewaters once the new activated sludge tank of the Aqueduct and Sewer Authority is in operation. PRASA Regulation 477 permits only 2 mg/l of Copper. Compliance with this limit is possible when the etching is not in operation. These Associates will make the necessary tests and will provide recommendations.

8. Pumps

All pumps were operating properly during our visit on February 15, 1972.

9. pH Recorders

pH Recorders were under repair.

10. Alarms

Alarms for flow level were operating properly.

11. Flow

No measurement of flow was made, as there was no wastewater going over the weir.

12. Chlorine Alarm

It is being investigated at this time if the chlorine alarm should be set at 1 or 3 ppm. At present the alarm is set off when the chlorine concentration approaches 1 ppm.

Submitted by

Ramón M. Guzmán
Chemical and Sanitary Engineer

cc.: Bacon
Beaupre
Hanson
Mackey
Quiñones
Rimer
Santiago
Ware
Wood

Puerto Rico

Correspondence
XX Water

RAMON M. GUZMAN AND ASSOCIATES

FEB 8 1972

cc Geo Wood
Geo Burke
File

February 4, 1972

Mr. Cruz A. Matos
Executive Director
Environmental Quality Board
P. O. Box 11785
San Juan, Puerto Rico 00910

Dear Mr. Cruz Matos:

On December 13, 1971 we sent a letter to that Board requesting permission for the drilling of three deep wells in the vicinity of the Digital Equipment Corporation plant at San Germán. It is the intent of Digital to obtain additional water to proceed with the enlargement of the plant and the manufacturing of electronic components. At this time we have received no answer from that Board.

Because of the urgency of this project, we will appreciate your letting us know of the desision of the Board in this respect.

Cordially yours,

Ramon M. Guzman

cc: (blind)
Mr. Ware
Mr. Hanson

Puerto Rico

Correspondence
XR water

RAMON M. GUZMAN AND ASSOCIATES

FEB 8 1972

CC
file
GeoWood.
Geo Baba.

February 1, 1972

Mr. Peter Ware
Camp, Dresser & McKee
One Center Plaza
Boston, Mass. 02108

Dear Peter:

I sent with Al Rimey the analysis of the well water. There were so many inconveniences with it, as the sample which I brought broke and we have to get the one extra sample from Chardón. Al sent me a note by mail stating that somehow he has misplaced the analysis, so I am sending you another copy.

As for your note, here are the comments:

1. Obtain permission to drill 3 wells: I sent the letter to the EQB asking for the permit. It was sent on December 13, 1971, but at this time I have received no answer. I can send a follow up letter to EQB. I feel, however, that we have complied with the law by submitting the application. We can proceed at any time once Digital decides on what to do in this respect. Once this happens, I can go personally to EQB.

2. Water Analysis: It is herewith included

3. Rock sample: Al Rimey has it and probably you have it at your office at this time.

4. Fomento: I will be glad to work in expediting the land adquisition and to determine ownership of land, or at least pressuring to see that they expedite. I feel that most of these things can be done fast once Digital makes their decision. Should you want me to obtain the information for you please let me know. I have received no copy of the letter that you were going to send to Salvador Lugo of Fomento.

5. Letter to Victor Luis Lopez: I have received no copy neither, but let me know if you want me to follow up.

6. Analysis of Water from San Germán plant: The analysis is correct. It refers to the San Germán filtration plant and not to Rio Orocovis.

Sincerely,

Ramon M. Guzman

cc: Mr. Hanson
Mr. Mackey

Puerto Rico

Correspondence file
XR Waste Treatment

RAMON M. GUZMAN & ASSOCIATES
Consulting Sanitary Engineers
First Federal Bldg, Office 404
Santurce, Puerto Rico

MEMORANDUM

To : Digital Distribution List

Subject : Meeting of 27 January 1972

Present at the meeting were the following:

Mr. Al Rimer, Camp, Dresser & McKee
Mr. Peter Mackey, Digital, Maynard
Mr. William Malley, Digital, San Germán
Mr. George Wood, Digital, Maynard
Mr. Hiram Quiñones, Digital, San Germán
Mr. R. Sambolín, Digital, San Germán
Mr. Planas, Digital, San Germán
Mr. Ramón Guzmán, Coordinator

1. Mr. Rimer stated that there are some defficiencies in the wastewater treatment plant. The pH control was not working, nor the pH recorder for the city water. Constant monitoring of the pH of the effluent is necessary. According to PRASA Regulations, pH must be maintained between 6.5 and 9.0. Copper concentration should not exceed 2 mg/l.

Mr. Rimer added that the regular maintenance schedule as indicated in the Operators Manual should be followed. The caustic should be disconnected and cleaned with running water once a week. The monitoring recorders and controls should be calibrated.

Causes of high pH at the equalization basis can occur because of too much sodium hydroxide going into the strong alkaline storage tank. The ammonium persulfate goes directly to be sewer. The alarms for pH are inoperative. Apparently there is no power, which means that are disconnected.

2. Mr. Rimer indicated that the forms utilized at the laboratory should be revised. He will send a revised form. Miss Santiago should be informed.

Memorandum

3. Mr. Sambolín indicated that he need prints for safety devises. He asked for a complete set of OSAJ standards. He also made some inquiry about the safety level of chlorine.

4. Mr. Guzmán asked if the use of ammonium persulfate would possibly raise the sulfate concentration in the wastewaters over the maximum limit of 250 mg/l. The answer by Mr. Wood was that this does not appear possible, as the amount of persulfate used is relatively low. Mr. Guzmán also stated that at times the copper goes over the 2 mg/l limit.

5. Mr. Wood stated what it is of importance to maintain the copper concentration below 2 mg/l, as higher concentration may affect the bugs working at the activated sludge plant which is now under construction by the Aqueduct and Sewer Authority. A high copper concentration may upset the treatment at the activated sludge plant once it is in operation.

6. Mr. Rimer stated that the sample pumps must be standardized once a day.

7. Mr. Guzmán will make a detail investigation of the sources of wastewaters. The volume of each source should be measured. With these results, the Table on the Operators Manual should be revised to adapt it to local condition.

8. Mr. Guzmán will also collect and analyze samples for cooper from each source of wastewaters.

9. Mr. Guzmán will prepare a monthly report of the wastewater disposal operations.

10. Mr. Rimer stated that composite samples of the influent to the wastewater treatment plant should be collected, as well as a composite of all grab samples. Individual analyses should be made for each grab.

11. Mr. Rimer will send a copy of the Operators Manual to Messrs. Quiñones and Guzmán.

Ramón M. Guzmán
Coordinator

cc.: Bacon
Beaupre
Hanson
Mackey
Quiñones
Rimer
Sambolín
Santiago
Wood

Puerto Rico

Correspondence
XR Waste Treatment

RAMON M. GUZMAN AND ASSOCIATES

January 27, 1972

Mr. Peter Mackey
Digital Equipment Corporation
146 Main Street
Maynard, Mass. 01754

Dear Peter:

I could not see you when you left last Wednesday at the Digital plant at San Germán. George Wood, Al Rimer and me discussed during the afternoon meeting our work on monitoring of the wastewaters, preparation of monthly reports and guidance in respect to the operation of the plant.

The proposed schedule is that I or one of my Associates will visit the Digital plant once every two weeks to determine how the plant is operating, offer the necessary recommendations to Hiram, Luis, Lillian or Lon. At the same time we will collect samples and will analyze them at our laboratories at San Juan.

First we will collect individual samples from all the sources of wastes and analyze them to determine which are the cleaner wastes or where the metallic ions are coming from and in what concentration. With this we will gather data for plant operation and for further studies should the PTH plant is establish at San Germán. We also will measure the different effluents. We are going to do this during the first three visits, then back to the normal sampling which will be changed according to the laboratory results or plant operations.

At this time I have not the purchase order, and I wonder if I can start on the basis of what we talked last time when you were in San Juan. I told Hiram that I will start on February 4 with the monitoring and other aspects covering the treatment plant.

Please let me knowlif I could proceed with this work before receiving the purchase order, or should we wait for it before proceeding .

Sincerely yours,

Ramon M. Guzman

CC
Geo Wood.
Dick King.
file.

Dick pls expedite that P.O. Am H.

Puerto Rico

Correspondence
XR Water

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
FIRST FEDERAL BLDG. OFFICE 404 SANTURCE. P. R.

cc
/ file
Geo Wood.
Jerry Jordi

January 25, 1972

Mr. Peter Ware
Camp, Dresser & McKee
One Center Plaza
Boston, Mass. 02108

Dear Peter:

The analysis of the water from the deep well is as follows:

Constituent	Expressed as	Concentration
Alkalinity	$CaCO_3$	154
Chlorides	Cl	18
Hardness	$CaCO_3$	202
Calcium	Ca	44
Nitrates	NO_3	0.05
Sulfates	SO_4	89
Manganese	Mn	None
Iron	Fe	0.07
Phosfate	PO_4	0.12
Silica	SiO_2	39
Sodium & Potassium	Na	137
Magnesium	Mg	21
Nitrites	NO_2	0.005
Fluorides	F	0.08
Color	Pt-Co Stds	None
Turbidity	SiO_2 Stds	None
Total Dissolved Solids	---	598
Suspended Solids	---	None
pH	log 1/H	7.9

All results are expressed in milligrams per liter, except for pH color and turbidity.

We still have some sample left in case you want another analyses.

Sincerely,

Ramon M. Guzman

cc: Mr. Beaupre Mr. Beebe Mr. Quiñones
Mr. Mackey Mr. Hanson Mr. Velez

BOX 1401 HATO REY. P. R. 00919 TEL. 722-2130

Puerto Rico

Correspondence
XR Waste Treatment

RAMON M. GUZMAN & ASSOCIATES
Consulting Sanitary Engineers
First Federal Bldg. Office 404, Santurce, P.R.

JAN 28 1972

MEMORANDUM

To : Digital Distribution List

Subject : Additional Wastewater Facilities for the Digital Plant

Date : January 25, 1972

On January 24, 1971 Mr. Alan E. Rimer, of Camp, Dresser & McKee and Mr. Ramón M. Guzmán, of R. M. Guzmán & Associates, met and went to the Puerto Rico Aqueduct and Sewer Authority to start a study on future disposal of wastewaters from the Plating thru Hole (PTH) operations for the Digital plant at San Germán.
The following are the highlights of this meeting:

1. It is desirable to start analizing the wastewater going to the city sewers at San Germán. Analyses should be done for copper, tin, suspended solids, and B.O.D. to determine the metallic ions and possible organic constituent in the print and etch operations being conducted by the Digital plant at San Germán. These analyses have not been done up to the present time. This data is necessary to study the treatment that should be provided to the combined wastewaters from the Print and Etch, and PTH operations. Estimated volume of PTH wastewater is 225 gpm.

2. The wastewaters from PTH are different in metallic constituents than those of the P & E. Copper, cyanides, hexavalent, tin and chromium will be present in this waste. Of these constituents, hexavalent chromium is the more difficult to remove. Furthermore, its limit for USPHS standards is only 0.05 mg/l. The local Department of Health and the Environmental Quality Board are very strict with wastewaters containing relatively high hexavalent chromium concentrations.

3. We visited Mr. Luis R. Piña, Chemical Engineer from the Operations Division of Acueductos. He states that PRASA Regulation No. 477 permits 2 mg/l of metallic ions as nikel, iron, zinc, copper and chromium. He indicated, however, that the regulation is being revised and up-dated at this time, and that he is of the opinion that

one of the constituents that will be revised is the hexavalent chromium, as the maximum limit of 2 mg/l is 20 times higher than the USPHS standard. It should be lowered to about 0.1 mg/l, he stated. The Department of Health limits it to 0.1 mg/l for an electronic plant located in the Barceloneta area.

4. There is a surcharge for sewer services for those industries which discharge wastewaters under PRASA Regulation 477. This is based on B.O.D., suspended solids, metallic ions and toxic components. As the Digital waste is mainly inorganic, B.O.D. will be very low, but the metallic ion concentrations will be high for the untreated waste. Maximum surcharge factor is 5. As the charge for sewer service is 2/3 of the water bill a maximum surcharge will notably increase the charge for sewer service for Digital.

5. Considerations in respect to the design of the wastewater treatment facilities should be given to this surcharge. Should the limit for chromium is lowered to 0.1 mg/l, then the surcharge factor will be a very important point. Should the factor is applied, and assuming no treatment and the maximum surcharge factor, the bill for sewer service may increase for about $160,000 per year.

6. Copper and cyanides are present in the wastewater from the PTH, but these constituents are relatively easy to precipitate and dispose of. Furthermore, the limit for copper is 2 mg/l and it is possible that in the revision of Regulation 477 it will be increased to about 3 mg/l. The copper can be eliminated by raising the pH. The elimination of hexavalent chromium, a toxic ion, is much more difficult. Most widely used method is reduction of the hexavalent to the trivalent chromium by adding sulfuric acid to obtain a pH of 2.5-2.8 and then precipitate it at a high pH, about 8.2. Sodium bisulfite is used in the process. It has been the experience of these Associates that in this treatment the sulfates are build up to levels of about 600-700 mg/l above the normal content of the raw or process water.

7. Since the chromium is the most dangerous and important metallic constituent in the PTH waste, and since the volume of this part of the waste is about 30 gpm, it is desirable to consider the segregation of the chromium waste to treat it alone. As the other metallic ions, (as copper) may not go above the 3 mg/l limit, this could go directly to the sewers without chemical treatment, provided that the pH of the waste is whithin the range 6.0-8.5.

8. The precipitation of chromium and copper may generate a relatively large quantity of sludge, thus provisions should be made to dispose of it. It is possible that the sludge could be sold to the local market or to the East coast of the U.S., as it contains chromium, or could be discharged to a sanitary landfill.

9. Mr. Orlando Clavel, Chief of Sewer Design Division and Mr. Benedicto Gil, Director of Engineering of Acueductos, stated that Acueductos owns some land near the new activated sludge plant being constructed at San Germán. Considerations should be given by D.E.C. to make negotiations with Acueductos and build the facilities for chemical treatment of the wastes at this site.

10. Should the chemical plant for wastewater treatment is located at Acueductos premises, it is possible to make negotiations to discharge the D.E.C. wastewater in the effluent pipe from the activated sludge plant. The line discharges into Rio Guanajibo. Another solution is that DEC constructs its own line to discharge to the river. In this case permission should be obtained from the local Environmental Quality Board and the Department of Health.

11. Mr. Gil suggested DEC to writes a letter to Acueductos to find out if it is possible to obtain a lower charge for sewer services if the DEC waste by-passes the activated sludge plant and joins the effluent pipes.

12. As the Acueductos plant is activated sludge, the presence of the metallic ions would create an olegodynamic action that will inhibit in part the normal growth of the micro-organisms in the sludge floc.

13. There are several alternatives for the disposal of the wastewaters from the PTH operations, which must be evaluated to arrive at the proper decision. These are as follows:

Alternate 1: DEC does all the treatment and discharge to the Acueductos line. In this case there will be no surcharge for sewer service if the plant is properly designed and operated.

Alternate 2: DEC treats chromium and cyanides, discharging other wastes containing copper and other less troublesome ions to Acueductos sewer line.

Alternate 3: DEC send all the wastewaters to Acueductos. This agency operates the system. DEC will have to construct and pay for sewer charge. This is an expensive approach, but a solution.

Alternate 4: DEC provides treatment to all the wastewaters and obtain permission from the Department of Health and EQB to discharge to Rio Guanajibo.

14. Messrs, Gil, Clavell and Piña were very cooperative and indicated that DEC could feel free to visit their offices for additional information and further consultation.

Ramón M. Guzmán

cc.: Mr. Bacon
Mr. Beaupre
Mr. Hanson
Mr. Mackey
Mr. Marini
Mr. Quiñones
Mr. Rimer
Mr. Ware
Mr. Wood

Puerto Rico

Correspondence
XR Water

JAN 18 1972

RAMON M. GUZMAN & ASSOCIATES

MEMORANDUM

To : Digital Distribution List

Subject: Meeting at Acueductos - Water Supply

Place : Mr. Victor Luis Lopez's office

Date : January 10, 1972

Present at the meeting were the following:

Mr. Victor Luis López
Mr. Peter Ware
Mr. Ramón M. Guzmán

Mr. Ware indicated that Digital is in need of an additional 680,000 gpd of water for the expansion of operations at their San Germán plant. Acueductos now serves 90,000 gpd, but this is not enough. Mr. López stated that it is possible to obtain ground water, and that the only area close to the Digital plant where there is a good supply is where the septic tank serving San Germán is located. This water, according to tests, is polluted by sewage, but the new treatment plant is under construction and the septic tank will be abandoned. Other areas that can be developed are far from the Digital project. He thinks that two or three wells should be digged to obtain the desired capacity.

Mr. López indicated that at this time Acueductos does not have the capacity needed by Digital, but that if Digital constructs the wells and transfer them to Acueductos, then this Government agency will operate and maintain them, and will charge for water service. Digital would have to contract a dig-weller, test it for quality and quantity, and should also adquire the land. Acueductos could make an estimate of the cost of drilling the wells and install the pumps and pipe, and then make a contract with Digital. In this respect Acueductos must make first a study.

Mr. López stated that Digital can not get the water themselves, as the water law states that Acueductos is the only agency which is authorized to sell water. He added that the new water law restrict the use of underground water.

Mr. López estimates that the developing of the wells and adquisition of the land will cost about 50-75,000, plus land and right of ways. He added that it will take 3-4 month to complete.

Ramón M. Guzmán

cc: Maynard

Mr. Hanson
Mr. Mackey
Mr. Beebe
Mr. Woods
Mr. Bacon

San Germán

Mr. Beaupre
Mr. Quiñones
Mr. Vélez

digital

INTEROFFICE MEMO

TO: Al

DATE: Jan. 4, 72

FROM: Pete

SUBJ: Water, San Lorenzo.

We should sit tight for now with the information we have on the available water from wells in San Lorenzo, My opinion is based on bits of information picked up about the PTH etc re building

Pete

Puerto Rico

Correspondence file Copy
XR Water

digital

RAMON M. GUZMAN & ASSOCIATES

December 30, 1971

To D. Knoll. Geo Wood.
It would cost 8K to develop 2 more wells in that area. pls advise.
Art.

Mr. Peter Ware
Camp, Dresser & McKee
One Center Plaza
Boston, Mass. 02108

Dear Peter:

It is usually very hard to find people to work in the island during the Holidays, but umpredictable Chardón got his people to start the pump test on December 28th. They had troubles with the magnet of the generator, but finally repaired it next day and the tests have been done now for about 26 hrs.

The drawdown was 21 ft at 12:30 P.M. yesterday when the pump test started, going fast through the 20, 30 and 40 ft at short intervals. At 7 P.M. the drawdown stabilized at 58 ft and remained constant up to 1 P.M. today, when it went down to 60 ft. As the depth of the well is about 360 ft, it appears that the drawdown at the actual pumping rate should not be of much concern. The small submersible pump being used resulted in a volume of 75 gpm. It is obvious that the well could go on more pumping with a higher capacity or if the casing would have been of greater diameter. At any rate, the tests thus far indicate that a safety yield of about 70-100 gpm could be obtained.

I am of the opinion that more wells should be drilled in the plant premisses, but next wells should be digged with an 8-in casing and a pump of higher capacity. As well, the area North of the plant should be kept in mind for additional deep well water. I think that we could get about 400 gpm with three wells in the nearbys. Adding this to the 90,000 gpd that Acueductos is committed would bring the total to 670,000, which will fall about 80,000 gpd short of the plant needs.

According to conversations I had with Victor Luis López, Acueductos could dig a battery of wells and then sell the water to Digital. At this time no action has been taken by Acueductos in respect to the letter dated December 9, 1971 in which Bob Marini asked for the additional water.

I believe that no matter what the decision of Acueductos is in this respect, we should start plans to dig two additional wells in the plant premisses and on the North side to assure the additional water. Should the proposal made to Acueductos proceeds, then Digital can get his money back from them. We should gain some time by digging the wells.

I will keep you informed on the results of the pump tests. I am, including the data gathered up to this time.

Sincerely,

Ramon M. Guzman

cc: Mr. Beaupre
Mr. Beebe
Mr. Hanson
Mr. Mackey
Mr. Marini
Mr. Quiñones
Mr. Velez
Mr. Wood

PARTIAL RESULTS OF PUMP TEST

Date: December 29-30, 1971
Place: Digital Well, San Germán, P.R.

Hour	Drawdown in ft
(Dec 29) 12:30 P.M.	21
12:35	26
12:40	28
12:45	30
12:50	37
12:55	40
1:00	41
1:10	44
1:20	47
1:30	49
2:00	52
3:00	53
4:00	54
5:00	56
6:00	57
7:00	58
8:00	58
9:00	57
10:00	58
11:00	58
12:00	57
Dec. 30 1:00 A.M.	56
2:00	58
3:00	58
4:00	58
5:00	58
6:00	58
7:00	58
8:00	58
9:00	57
10:00	58
11:00	58
12:00 P.M.	57
1:00	60
2:00	60

Puerto Rico

correspondence file copy

to A. Hanson

(1) Assuming this water is good water - someone should check it then

(2) It sounds like we should proceed but

(3) I'm not at all close to the problem or its solution so

(4) Get your decision from Ron Beaupre -

Dave

To D. Knoll; Geo Wood.

It would cost 8K to develop 2 more wells on that site. pls advise.

AWH.

RAMON M. GUZMAN & ASSOCIATES

December 30, 1971

Mr. Peter Ware
Camp, Dresser & McKee
One Center Plaza
Boston, Mass. 02108

Dear Peter:

It is usually very hard to find people to work in the island during the Holidays, but umpredictable Chardón got his people to start the pump test on December 28th. They had troubles with the magnet of the generator, but finally repaired it next day and the tests have been done now for about 26 hrs.

The drawdown was 21 ft at 12:30 P.M. yesterday when the pump test started, going fast through the 20, 30 and 40 ft at short intervals. At 7 P.M. the drawdown stabilized at 58 ft and remained constant up to 1 P.M. today, when it went down to 60 ft. As the depth of the well is about 360 ft, it appears that the drawdown at the actual pumping rate shoid not be of much concern. The small submersible pump being used resulted in a volume of 75 gpm. It is obvious that the well could go on more pumping with a higher capacity or if the casing would have been of greater diameter. At any rate, the tests thus far indicate that a safety yield of about 70-100 gpm could be obtained.

I am of the opinion that more wells should be drilled in the plant premisses, but next wells should be digged with an 8-in casing and a pump of higher capacity. As well, the area North of the plant should be kept in mind for additional deep well water. I think that we could get about 400 gpm with three wells in the nearbys. Adding this to the 90,000 gpd that Acueductos is committed would bring the total to 670,000, which will fall about 80,000 gpd short of the plant needs.

According to conversations I had with Victor Luis López, Acueductos could dig a battery of wells and then sell the water to Digital. At this time no action has been taken by Acueductos in respect to the letter dated December 9, 1971 in which Bob Marini asked for the additional water.

I believe that no matter what the decision of Acueductos is in this respect, we should start plans to dig two additional wells in the plant premisses and on the North side to assure the additional water. Should the proposal made to Acueductos proceeds, then Digital can get his money back from them. We should gain some time by digging the wells.

I will keep you informed on the results of the pump tests. I am, including the data gathered up to this time.

Sincerely,

Ramon M. Guzman

cc: Mr. Beaupre
Mr. Beebe
Mr. Hanson
Mr. Mackey
Mr. Marini
Mr. Quiñones
Mr. Velez
Mr. Wood

PARTIAL RESULTS OF PUMP TEST

Date: December 29-30, 1971
Place: Digital Well, San Germán, P.R.

Hour	Drawdown in ft
(Dec 29) 12:30 P.M.	21
12:35	26
12:40	28
12:45	30
12:50	37
12:55	40
1:00	41
1:10	44
1:20	47
1:30	49
2:00	52
3:00	53
4:00	54
5:00	56
6:00	57
7:00	58
8:00	58
9:00	57
10:00	58
11:00	58
12:00	57
Dec. 30 1:00 A.M.	56
2:00	58
3:00	58
4:00	58
5:00	58
6:00	58
7:00	58
8:00	58
9:00	57
10:00	58
11:00	58
12:00 M.	57
1:00	60
2:00	60

Puerto Rico

correspondence file

RAMON M. GUZMAN AND ASSOCIATES

December 23, 1971

Mr. Peter Ware
Camp, Dresser & McKee
One Center Plaza
Boston, Mass.

Dear Peter:

Chardon went to the Digital plant last Tuesday to make the pump tests, but he had difficulties with the electric power and could not start the work. The Government agreed to perform the pump test, and will be at San Germán at the end of next week.

Sincerely,

Ramon M. Guzman

cc; Mr. Beaupre
Mr. Beebe
Mr. Hanson
Mr. Mackey

Puerto Rico

Correspondence
XR newspaper clippings

RAMON M. GUZMAN AND ASSOCIATES

DEC 23 1971

December 20, 1971

Mr. Peter Ware
Camp, Dresser & McKee
One Center Plaza
Boston, Mass. 02108

Dear Peter:

I am including a news clip from the San Juan Star concerning preparation of Environmental Impact Reports that must be prepared for all new constructions, either Government or industry. Please keep it in your files so that we have it in mind should the new plant for Digital is constructed.

Sincerely,

Ramon M. Guzman

cc: Mr. Beaupre
Mr. Hanson
Mr. Mackey
Mr. Marini

San Juan Star
Dec. 7/71

operating in Arecibo.

EQB Instructs Island Agencies On Impact Report Preparation

By MARGOT PREECE
Of The STAR Staff

The Environmental Quality Board Monday held an interagency seminar to show the various Commonwealth agencies how to prepare the required environmental impact statements for their projects.

"Environmental impact statements represent a major action by the Commonwealth toward the goal of open government" set forth recently by Gov. Ferre, according to EQB Executive Director Cruz Matos.

"Because of the statements, decisions that might once have

See, EQB INSTRUCTS, Pg. 28)

EQB INSTRUCTS

Continued From Page 3)

been reached quietly behind been reached quietly behind closed doors have instead been exposed to the light of public opinion," Matos said.

Matos singled out the Public Service Commission as an agency which has already begun to use the statements to avoid the former haphazard approach to consultation among agencies.

Agencies themselves have much discretion in handling their statements, and theoretically could render the statements meaningless, Matos noted.

He added, however, that the law creating the board and requiring it to establish the statements also set a precedent in the island — the citizen in the island—the citizen lawsuit.

"Already, two citizen suits have been filed here to invalidate public action which was taken, the suits allege, in violation of the statement requirements," the executive director said.

Such suits, he said will probably turn public decision-making into a "whole new ballgame."

According to the law, Commonwealth and Federal agencies are required to prepare and use the statements before they take any action which "significantly affects the quality of the human environment."

Matos noted that prior to the implementation of the statements, economic and technical, rather than social and natural values often ruled the decision-making process.

Five topics must be discussed in each statement: environmental impact of a proposed action, any unavoidable adverse effects, alternatives, relationship of short-term and long-term productivity and any irreversible and irretrievable commitments of resources.

Puerto Rico

Correspondence
XR Contracts & Cost Contr.
DEC 20 1971 XR Water Treatment

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
FIRST FEDERAL BLDG. OFFICE 404 SANTURCE, P. R.

December 14, 1971

File
OK my
Dick, write a
agreement and
give Ramon
P.O.
Lou has
agreed.
AWH

Mr. A. W. Hanson
Digital Equipment Corporation
146 Main Street
Maynard, Mass. 01754

Dear Mr. Hanson:

During his last visit to San Juan Mr. Mackey stated that you would like from us an alternate proposal for the services that we can offer to the Digital Equipment Corporation. We made the first proposal in such a hurry and have revised it now to fix better with your necessities. The services that we are proposing now is basically the original one, but have lowered the professional fees to $11,000.00 for one year.

We believe that this is a complete services for matters concerning sanitary engineering for the operational phase of the plant at San Germán. Should the plant is interested only in the analyses, may we propose the performance of the first three items in the proposal for the sum of $8,500.00.

We are open for any discussion or suggestion on the specific needs for the professional engineering services required by Digital should these proposal need changes, or will be glad to go to Maynard to discuss with you the proposed contract.

Sincerely yours,

Ramón M. Guzmán

BOX 1401 HATO REY, P. R. 00919 TEL. 722-2130

AGREEMENT BETWEEN RAMON M. GUZMAN AND ASSOCIATES, CONSULTING SANITARY ENGINEERS, SAN JUAN, PUERTO RICO, AND THE DIGITAL EQUIPMENT CORPORATION, SAN GERMAN, PUERTO RICO, FOR THE PERFORMANCE OF CONSULTING ENGINEERING WORK RELATED TO WASTEWATER TREATMENT AND DISPOSAL, AND OTHER PHASES OF SANITARY ENGINEERING.

To provide professional engineering services for the treatment and disposal of industrial wastewaters from the Digital plant located at San Germán, Puerto Rico, in all its aspects of sanitary and environmental engineering. Consultation services shall be provided in all matters related to these fields in which the contractor requires the services of the Associates.

1. For the performance of wastewater analyses including recommendations for better operation of the treatment facilities. This part includes periodic visits to the plant at San Germán to observe operations, collection of samples and performance of chemical and sanitary analyses of the wastewaters, and all determinations necesary for the proper interpretation of the results of analyses; and related engineering work necesarry to conduct acceptable operations for wastewater treatment and disposal. The visits shall be made to the San Germán plant as necessary, but not less than once every two weeks.

2. Preparation of reports to the management of the Digital Equipment Corporation, and all other reports necesarry for the Environmental Quality Board, Environmental Protection Agency, Department of Health, Aqueduct and Sewer Authority, Puerto Rico Industrial Development Company, and other Commonwealth or Federal agencies, as may be required to comply with the existing laws and regulations.

3. Performance of Industrial Hygiene surveys at the plant proper or plant premisses to insure that no abnormal emissions come out of the operations conducted at the plant. These surveys shall be made with the frequency necessary to insure proper operation, but not less than four times a year.

4. Make the necessary recommendations in matters concerning Industrial Hygiene for the industrial plant, and prepare the necessary reports for the plant management and/or Government agencies.

5. The Associates shall be also responsible for matters concerning the disposal of solid wastes, prepare the necessary reports for the management and/or Government agencies. The Associates shall provide professional guidance in matters concerning solid wastes.

6. The Associates shall serve as coordinators in San Juan for all engineering matters concerning the plant. They shall be available for services which must be performed at the San Juan metropolitan area, and will serve as coordinator for phases of the plant operation at the request of the management.

7. The Associates shall assure that the disposal of wastewaters, solid wastes, air emissions, etc., are within the laws and regulations of the Commonwealth government.

8. It shall be the responsibility of the Associates to keep the management informed of any new laws, regulations, controls, etc., that can be applicable to the operations of the Digital plant.

9. The Associates will be available for consultation for industrial waters and raw waters required for the industrial process. Analyses of the raw and process waters shall be made as required to insure proper operations.

10. Preparation of letters, memorandums, etc., on matters related to wastewater disposal, air pollution control, industrial hygiene to the management of the Digital plant and/or Government agencies.

11. The Associates are committed to perform all these services for the duration of one year after this contract is signed.

Reports shall be made first in draft and discussed with the Digital management at San Germán and/or Maynard. Once discussed, the Associates shall prepare the final draft for distribution. The contents of some specific letters shall be coordinated with the management before the final draft is prepared. All the work shall be performed in strict coordination with the Management.

Design of units of operation for wastewater disposal and related phases, or any design as may be required by Digital will be charged separately on separate agreement in case these services are required.

PROFESSIONAL FEES

The Associates shall perform these services indicated above for the lump sum of Eleven-Thouthand Dollars ($11,000.00), plus travel and per diem expenses. Travel, per diem and representation expenses shall be paid by the Corporation. Payments shall be made as directed by the Associates, but shall not be greater in any monthly billing for more than 1/12 of the total sum agreed.

Other services not included in this Agreement and required at the specific request of Digital shall be performed by the Associates at the fixed minimum rate for consulting services of the Colegio de Ingenieros, Arquitectos y Agrimensores de Puerto Rico, which is one-hundred and fifty dollars ($150.00) a day.

RAMON M. GUZMAN & ASSOCIATES

Ramon M. Guzman
Senior Partner

SUGGESTED SUPPLIER AND ADDRESS						REC. DELIVERY	APPROX. TOTAL COST	APPROVAL SIGNATURE & DATE
PAGE NO.	COST CTR.	ACCT.	1	2	3	BUYER CODE	REQUESTED BY: Mackey	LOCATION

digital

REQUISITION / PURCHASE ORDER

No.

DIGITAL EQUIPMENT CORPORATION

VENDOR:
Ramon Guzman asso.
First Federal Bld.
Office 404
Santurce P.R

SHIP TO:
- 146 MAIN ST., MAYNARD, MASS. 01754 BLDG.____ DOCK____ AREA CODE 617-897-5111
- 1111 SOUTHAMPTON RD., WESTFIELD, MASS. 01085 AREA CODE 413-568-9511
- DIGITAL DRIVE, WESTMINSTER, MASS. 01473 AREA CODE 617-897-5111

CONFIRMING PHONE ORDER DATE	SHIP VIA	TERMS	F.O.B.

ITEM	QUANTITY	DESCRIPTION / NUMBER	UNIT PRICE	TOTAL	DELIVERY
		To perform and consult as to the engineering work related to wastewater treatment and disposal and other phases of sanitary engineering in our plant in San German P.R. We plan on using your first three items of your proposal in your letter dated Dec 14. 71			

TOTAL PRICE → 8500.

BUYER SIGNATURE AND DATE

FORM NO. DEC 8-1039-A-10/70

REQUISITIONER: NO. 3 — Retain This Copy For Your Records

Puerto Rico

Correspondence
XX Special Hazards

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
FIRST FEDERAL BLDG. OFFICE 404 SANTURCE, P. R.

cc Tufts
L Best

December 14, 1971

Mr. George Wood
Digital Equipment Corporation
146 Main Street
Maynard, Mass. 01754

Dear George:

On December 9, 1971 we collected air samples to determine the content of chlorine in the air at the board plating room of the Digital plant at San Germán. The official lab report is not yet finished, but the three samples collected were negative for chlorine gas.

I am in doubt of the previous results obtained by the other laboratory, which reported 26 and 35 mg/cu m in two of the sites sampled. The standard for chlorine emissions indicates that a level above 3 mg/cu m is dangerous.

In my opinion the only way that such a high concentration is possible is when there is a leak in the system. If the results of the past test are correct, this was probably caused by a leak or abnormal operation and should not be considered as an indication of the normal chlorine content at the board platting room.

Sincerely,

Ramón M. Guzmán

cc: Mr. Hanson
Mr. Marini
Mr. Ware
Mr. Mackey
Mr. Beaupre
Mr. Velez

BOX 1401 HATO REY, P. R. 00919 TEL. 722-5948

Puerto Rico

Correspondence
X R Water Treatment

digital

December 14, 1971

Mr. Ramon Guzman
Ramon M. Guzman & Associates
First Federal Building Office 404
Santurce, Puerto Rico

Dear Mr. Guzman:

I have read your proposed agreement to monitor waste water effluent and perform industrial hygiene services at our plant in San German.

In regard to the waste water - I feel that, samples every two weeks is altogether too frequent and we should reduce the program to a quarterly schedule. In other words, we would want you to monitor the waste water four times a year.

In respect to the industrial hygiene portion of the program, I feel that 4 times a year is adequate.

Will you please review this new criteria and present a written proposal to me as soon as possible.

Very truly yours,

Allen W. Hanson
mm

Allen W. Hanson
Plant Engineering Manager

AWH/mm

cc: George Wood, Lon Beaupre
Central file

DIGITAL EQUIPMENT CORPORATION, 146 MAIN STREET, MAYNARD, MASSACHUSETTS 01754
(617)897-5111 TWX: 710-347-0212 TELEX: 94-8457

Puerto Rico

correspondence
xx water

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
FIRST FEDERAL BLDG. OFFICE 404 SANTURCE, P. R.

cc
file
Bob Marini - COM
Greg Beebe
Greg Wood
Ed Schwartz

December 13, 1971

Mr. Cruz A. Matos
Executive Director
Environmental Quality Board
P. O. Box 11785
San Juan, Puerto Rico 00910

Dear Mr. Cruz Matos:

Digital Equipment Corporation, a Fomento promoted industrial plant located at San Germán, is in urgent need for additional water to expand their operations. Contacts have been made with the Aqueduct and Sewer Authority to obtain the water, but that Government agency can not supply the extra demand needed by our clients. The only choice for the additional water is from deep well sources.

It is understood that although the proposed "Reglamento para el Control de Aguas Subterraneas" is under consideration, it is necessary to submit data and information on proposed drilling of deep wells to that Board. Utilizing the information required in the proposed regulation, we are hereby including data in respect to the wells.

It is proposed to dig three wells, two of which will be located in the Digital plant premisses, and the other near the shoreline of Rio Guanajibo. The exact location of the proposed wells is indicated in the enclosed drawing. It is expected to obtain about 250 gpm from each well. Land owners adjacent to the proposed drilling sites are the Commonwealth of Puerto Rico on the North and South, Digital on the West and Mr. Ernesto Quiñones on the East. To our knowledge there is only one well, owned by Digital, within an area of 700 meters from the proposed drilling site. A well drilling firm authorized for this type of business in Puerto Rico will be contracted for the design and construction of the wells.

Please let us know of any additional information required to obtain the permission from that Board. We are also forwarding a similar application to the Public Service Commission.

Sincerely yours,

Ramon M. Guzman

BOX 1401 HATO REY, P. R. 00919 TEL. 722-2130

PRIDCO
FORM NO. 58

843-4327 Chanda - Nora.

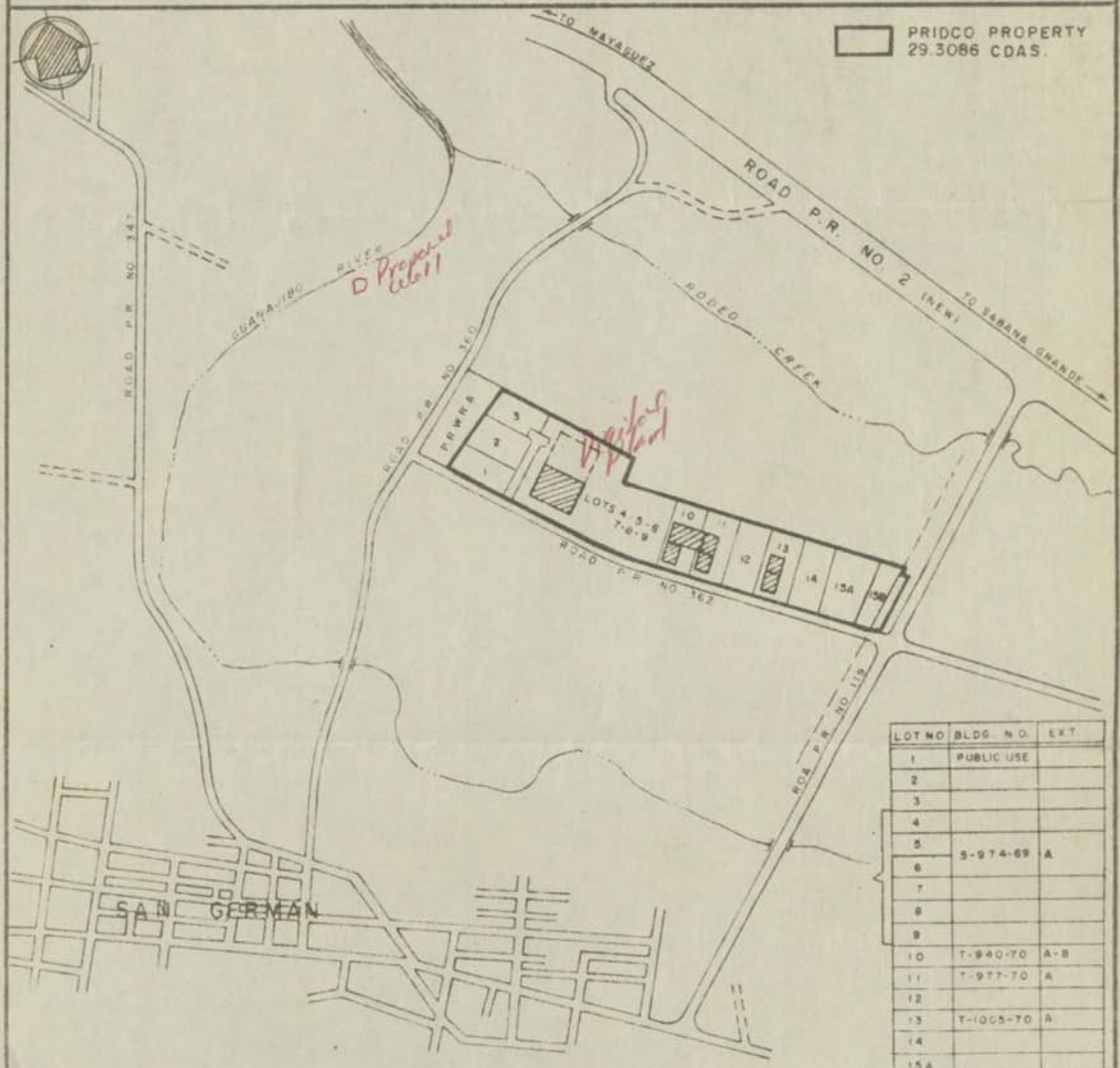
INDUSTRIAL SITE

MUN. SAN GERMAN
BARRIO CAIN ALTO

L-264-63
LOCATION PLAN

DATE 7 OCT. 1964

NUMBER
SG-

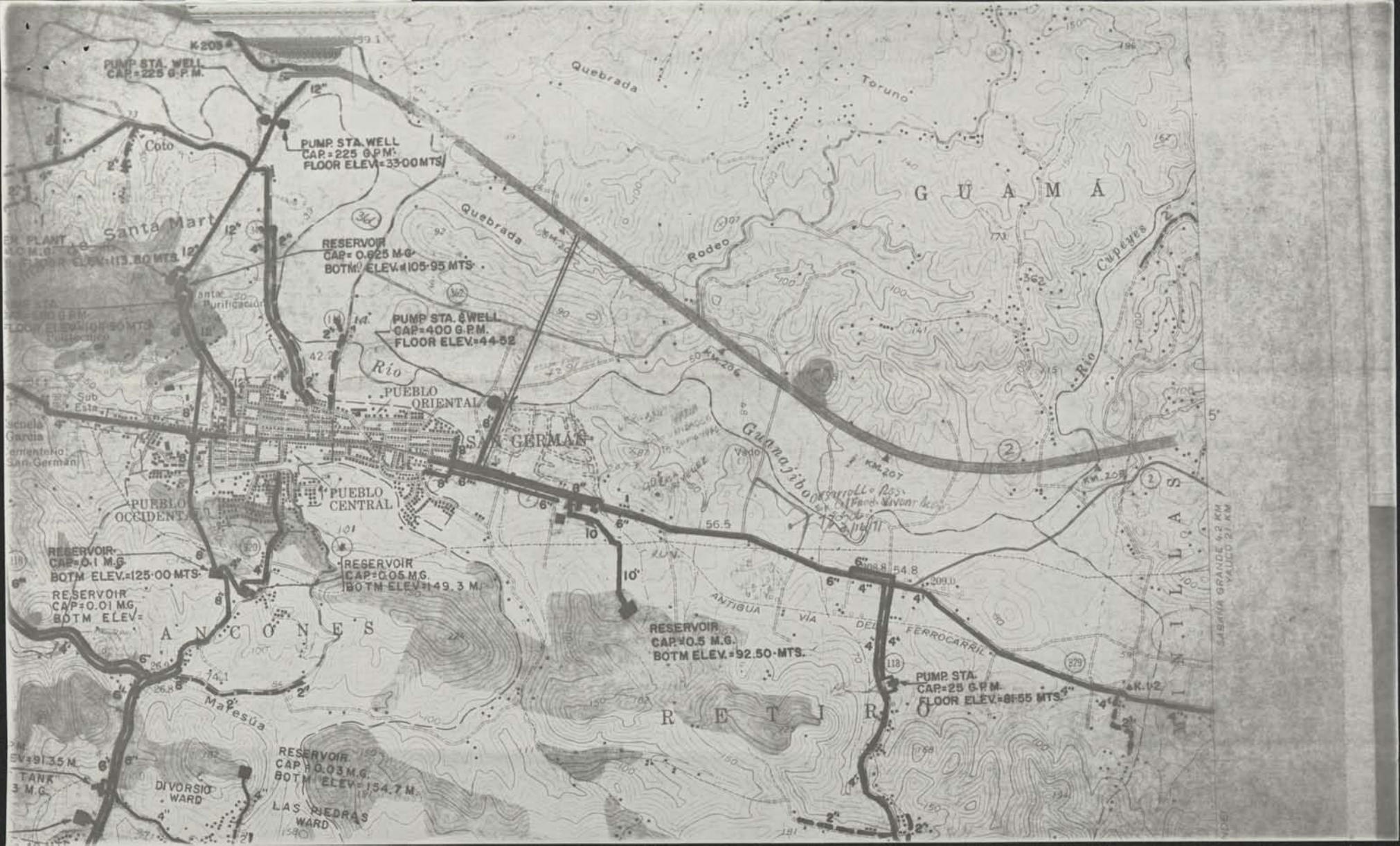


LOT NO	BLDG NO.	EXT.
1	PUBLIC USE	
2		
3		
4		
5	S-974-69	A
6		
7		
8		
9		
10	T-940-70	A-B
11	T-977-70	A
12		
13	T-1005-70	A
14		
15A		
15B		

DRAWN D. FERNANDEZ
CHECKED

SITE NO.
SCALE 1:10,000

PUERTO RICO INDUSTRIAL DEVELOPMENT CO. – PLANNING DEPT – SAN JUAN, P.R.


PUMP STA. WELL
CAP.=225 G.P.M.
PUMP STA. WELL
CAP.=225 G.P.M.
FLOOR ELEV.=33.00 MTS.
RESERVOIR
CAP.= 0.025 M.G.
BOTM. ELEV.=105.95 MTS.
PUMP STA. & WELL
CAP.=400 G.P.M.
FLOOR ELEV.=44.82
RESERVOIR
CAP.=0.1 M.G.
BOTM ELEV.=125.00 MTS.
RESERVOIR
CAP.=0.01 M.G.
BOTM ELEV.=
RESERVOIR
CAP.=0.05 M.G.
BOTM ELEV.=149.3 M.
RESERVOIR
CAP.=0.5 M.G.
BOTM ELEV.=92.50 MTS.
PUMP STA.
CAP.=25 G.P.M.
FLOOR ELEV.=81.55 MTS.
RESERVOIR
CAP.=0.03 M.G.
BOTM ELEV.=154.7 M.
PUEBLO ORIENTAL
PUEBLO CENTRAL
PUEBLO OCCIDENTAL
SAN GERMAN
ANCONES
GUAMÁ
RETIRO
Quebrada
Toruno
Rodeo
Cupeyes
Río
Guanajibo
Coto
Santa Mart
Matesúa
DIVORSIO WARD
LAS PIEDRAS WARD
ANTIGUA VÍA DEL FERROCARRIL
SABANA GRANDE 4.2 KM
YAUCO 21 KM

Puerto Rico

Correspondence
XR Air Treatment

digital

RAMON M. GUZMAN & ASSOCIATES

9° file
L Beit.

December 9, 1971

Mr. Peter Mackey
Digital Equipment Corporation
Maynard, Mass. 01754

Dear Mr. Mackey:

As per your instructions, I went to the Environmental Quality Board to obtain the application blanks for the three deep wells. The information I got was that the EQB has not yet approved the new regulation for drilling of deep wells and at this time it is not necessary to fill in the application. However, it will be approved in a near future. At any rate and to be on the safe side I am making the application for Digital following the guides contained in the proposed "Reglamento para elControl de Aguas Subterraneas". I am in San Germán looking for information required for the application.

We took today the air samples for chlorine analysis. Although on my last visit no chlorine odor was noticed at the board plating room, I could smell some of it today. I will forward the results of the analysis once it is made.

The pump test of the deep well will be done next Monday, as per the arrangements made.

Sincerely yours,

Ramón M. Guzmán

cc: Mr. Hanson
Mr. Wood
Mr. Marini
Mr. Ware
Mr. Beaupre

Puerto Rico

Correspondence File
XR Telephones

digital

RAMON M. GUZMAN & ASSOCIATES

Millie
Please note
Ann H

Mrs. Millie Marshall
Plant Engineering-Safety
Digital Equipment Corporation
Maynard, Mass. 01754

Dear Millie:

My office is having some difficulty with the telephones. If on any occation Mr. Hanson wants to contact me, call me at

(809) 725-6912

My home number is

(809) 791-0395

I am now at the Digital plant at San Germán, so I am using your letterhead.

I will be in Rio de Janeiro from Nov. 20 to the 28, so will be out of the office for the week (work,no vacation).

Regards.

Sincerely,

Ramon M. Guzman

DIGITAL EQUIPMENT CORPORATION de PUERTO RICO POST OFFICE BOX 106 SAN GERMAN, PUERTO RICO 00753
(809) 892-1231 TWX: 385439 DIGITAL PR

Puerto Rico
R. M. Guzman

Correspondence
XR Water

Dear Marini:

We are having a problem in relation to the Digital plant in San German.

Said firm wishes to expand their plant and for that they need additional water.

As you know, the system of aqueducts in San German is limited in it's capacity so that it is necessary to obtain water from deep wells. We have made a contract with the firm Chardon & SOns for the blasting. Work should have started the 8th of November, per our contract.

I have communicated constanstly with Chardon but every time he has an excuse for not doing the job.

The urgency of the project requires that the blasting be started as soon as possible.

I talked to Mr. Durham this week but he can't do the job till one month. I also communicated with Engineer Vivas of Ponce but he is also tied up with work. It is evident that we cannot depend on Chardon because of his informality, therefore the only solution is to ask you for help in the blastings about to be realized.

We realize that the Autoridad has many projects with it's equipment and personnel, but being that ~~xx~~ it is an industry recognized by Fomento and that we have tried to have private firms do the work, we would appreciate very much having this service rendered to get the blasting done.

We are including a copy of the contract with the firm Chardon which indicates the work to be done. Of course, we will pay the necessary fee for any services rendered.

Cordially,

cc Geo Wood
P Mackey
file.

Geo
This guy is great!!
Ans H.

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
FIRST FEDERAL BLDG. OFFICE 404 SANTURCE, P. R.

Diciembre 2, 1971

Ing. Israel Rivera Marini
Ingeniero Jefe
Autoridad de Acueductos
Apartado 7066 Est. de Bo. Obrero
Puerto Rico 00916

Estimado Marini:

Estamos teniendo un problema en relación a la planta Digital de San Germán. Dicha firma desea ampliar su planta y para ello necesita agua adicional. Como tu sabes, el sistema de Acueductos de San Germán está limitado en capacidad, por lo que es necesario obtener agua de pozos profundos. A tal respecto se hincó un pozo y contratamos la firma Chardón & Sons para realizar las pruebas de bombeo. El trabajo debió comenzar el 8 de noviembre, según el contrato. Me he comunicado constantemente con Chardón, pero todos los días tiene una excusa para no hacer el trabajo. La urgencia del proyecto hace necesario que las pruebas de bombeo se realizen a la mayor brevedad.

Hablé esta semana con el Sr. Durham, pero él no puede hacer el trabajo hasta dentro de un mes. Me comuniqué también con el Ing. Vivas de Ponce, pero también está lleno de trabajo. Es lógico que no podemos depender de Chardón por su informalidad, por lo que la única solución es recurrir a ustedes para pedir su ayuda enlas pruebas a realizarse.

Comprendo los muchos compromisos que tiene la Autoridad con su equipo y personal, pero dado el caso de que se trata de una industria promovida por Fomento y que se han hecho todas las gestiones para que las firmas privadas realizen el trabajo, mucho agradecemos que de ser posible se nos brinde este servicio para realizar las pruebas de bombeo. Estamos incluyendo una copia del contrato con la firma Chardón, que indica el trabajo a realizarse. Desde luego, pagaremos el cargo por el servicio a realizarse de proveerse la cooperación solicitada.

Cordialmente,

Ramón M. Guzmán

cc: Mr. Hanson
Mr. Marini
Mr. Ware
Mr. Beaupre

BOX 1401 HATO REY, P. R. 00919

TEL. 722-2130

Puerto Rico

Correspondence file

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
FIRST FEDERAL BLDG. OFFICE 404 SANTURCE, P. R.

Willie
have translated
& ret. Ant.

Diciembre 2, 1971

Ing. Israel Rivera Marini
Ingeniero Jefe
Autoridad de Acueductos
Apartado 7066 Est. de Bo. Obrero
Puerto Rico 00916

Estimado Marini:

Estamos teniendo un problema en relación a la planta Digital de San Germán. Dicha firma desea ampliar su planta y para ello necesita agua adicional. Como tu sabes, el sistema de Acueductos de San Germán está limitado en capacidad, por lo que es necesario obtener agua de pozos profundos. A tal respecto se hincó un pozo y contratamos la firma Chardón & Sons para realizar las pruebas de bombeo. El trabajo debió comenzar el 8 de noviembre, según el contrato. Me he comunicado constantemente con Chardón, pero todos los días tiene una excusa para no hacer el trabajo. La urgencia del proyecto hace necesario que las pruebas de bombeo se realizen a la mayor brevedad.

Hablé esta semana con el Sr. Durham, pero él no puede hacer el trabajo hasta dentro de un mes. Me comuniqué también con el Ing. Vivas de Ponce, pero también está lleno de trabajo. Es lógico que no podemos depender de Chardón por su informalidad, por lo que la única solución es recurrir a ustedes para pedir su ayuda enlas pruebas a realizarse.

Comprendo los muchos compromisos que tiene la Autoridad con su equipo y personal, pero dado el caso de que se trata de una industria promovida por Fomento y que se han hecho todas las gestiones para que las firmas privadas realizen el trabajo, mucho agradecemos que de ser posible se nos brinde este servicio para realizar las pruebas de bombeo. Estamos incluyendo una copia del contrato con la firma Chardón, que indica el trabajo a realizarse. Desde luego, pagaremos el cargo por el servicio a realizarse de proveerse la cooperación solicitada.

Cordialmente,

Ramón M. Guzmán

cc: Mr. Hanson
Mr. Marini
Mr. Ware
Mr. Beaupre

BOX 1401 HATO REY, P. R. 00919 TEL. 722-2130

called Jo Reilly - 10/8 - 3:00

~~[illegible]~~ 2432

Edwin Hernandez -

Bill Vallemont.

Vilma

~~Helena~~ Couchig

2432

Puerto Rico

Correspondence
XR Water

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
FIRST FEDERAL BLDG. OFFICE 404 SANTURCE, P. R.

December 1st, 1971

Mr. Peter Ware
Camp, Dresser & McKee
One Center Plaza
Boston, Mass. 02108

Dear Peter:

Got your cable concerning the urgency for the results of the deep well tests at Digital. I tried to call you on Monday, but you were out of the office at that tiem. Then I talked to Bob Marini explaining the situation.

Mr. Chardón has been with all kind of excuses. He went to San Germán for one day last week, but again claimed difficulties, this time with his equipment. There is some clogging that he must get rid off before starting the tests, so he will bring from San Juan another equipment. He said that he will send the crew again on December 2nd. In will keep in touch again with him to see if he continues with the job.

After getting such excuse again from Chardón, I called Mr. Durham, the driller recommended by the USGS, but he is booked with work. He said that could not possibly start with the test until next month. This leaves us with the only solution as to keep hoping that Mr. Chardón goes on with the work.

I realize that you are in need of the pump data, but I do not see other thing that I can do except continue hoping that he will continue, and of course keep pressure on him every day, as I have done. Certainly we contracted the wrong man for the job.

Sincerely,

Ramón M. Guzmán

cc: Mr. Hanson
Mr. Beaupre
Mr. Vélez

BOX 1401 HATO REY, P. R. 00919 TEL. 722-2130

Puerto Rico

Correspondence

Re: availability of Labor

digital

RAMON M. GUZMAN & ASSOCIATES

November 18, 1971

CONFIDENTIAL

Mr. A. W. Hanson
Digital Equipment Corporation
Maynard, Mass. 01754

Dear Mr. Hanson:

Although beyond of my scope of work with Digital, I think that I should give you some points of view in relation to the plant site for the new Digital plant.

I believe that there is some information in respect to disadvantages of other areas and advantages of the Southwest plains for the establishment of the new plant that should be re-considered.

I understand that there is the believe that employees in this area are more productive than those in the North area. This might be correct for the San Juan Metropolitan Area, but it has been the experience that there are good and reliable employees in other parts of the island, thus it might not be entirely correct that the employees in the South are the best in respect to production. The South area has more of the heavy industrial works for other reasons (docking facilities, for example), but problems with labor unions is a gambling at any site. In my opinion, where laborers are the worst are in San Juan, but this is not correct for other areas in the North.

Fomento is encouraging the establishment of "wet" industries in the Barceloneta Industrial Park. There are several blue chip corporations established in this area, as Merck, RCA, Abbott, Bristol and others, which made exhaustive studies prior to decide on establishing at that site. As far as I know, the plant employees in this area are excellent, and thus far this has been the experience.

One advantage of the location in Barceloneta is the availability of water. There is sufficient water from deep wells, and the Arecibo area presents also adequate water supply. Barceloneta has the added advantage that the first regional wastewater treatment plant is under construction, thus wastes can be discharged with practically no treat-

ment to the sewerage system. Although there is a contribution which must be made to Acueductos (as the project is a joint venture between Government and industry), there is no need for construction and operation of a 800,000 gpd wastewater treatment plant.

It is not correct that the best technical people in Puerto Rico are in the South area. In fact, the South have had difficulties in this respect, as they usually accept a job in the South and switch when there is an opening in the North or closer to San Juan. The majority of technical people are in the San Juan area.

Please accept these points of view as my sincere desire of the best of success for the company, or as a different opinion in this respect. Again, although this is beyond of the scope of my work with Digital, I believe that I should express my points of view in this respect to respectfully suggest a re-evaluation of considerations involved in the site selection for the new plant.

Sincerely yours,

Ramón M. Guzmán

Puerto Rico

Correspondence
CC
✓ file
Geo Wood
P Mackey.
G. Beebe.

RAMON M. GUZMAN AND ASSOCIATES

November 10, 1971

XR newspaper Clipping

Mr. Peter Ware
Camp Dreser & McKee
One Center Plaza
Boston, Mass. 02108

Dear Peter:

I am including a newspaper clip which appeared in today's San Juan Star. Lack of funds may delay the Toa Vaca project, at least for the stages in which construction of tunnels are required.

It appears that the Government agrees with the first stage of the project, but are reluctant to start the second one. This mean that only 9 mgd of water will be available for industries located in the Ponce area. It does not seems probable that the water supply at that area will be increased in the next few years.

I talked today to Avalh Pierce at Acueductos regarding this point, but he stated that the delay on the other stages and not on the first one. It seems that the project has a low priority at this time. I feel, however, that if the Ponce area is selected, immediate contact should be made with Acueductos to assure enough water for the Digital plant. The news that appeared in the San Juan Star should be interpreted as that no extra water aside from the 9 mgd from Lake Garzas will be available to industries located in that area.

Remember that once the site is selected contacts should be made again with Acueductos to assure the delivery of the water.

Please write or call me should you need additional information.

Sincerely,

Ramon M. Guzman

cc: Mr. Marini
Mr. Hanson

THE SAN JUAN STAR — Wednesday, November 10, 1971

Lack Of Funds Claimed For Toa Vaca Dam

By MARGOT PREECE
Of The STAR Staff

The Aqueducts and Sewers Authority has no funds to continue the $206 million Toa Vaca project — designed to provide the south and southeastern parts of the island with water for industrial development, an ASA source said Tuesday.

The Water Resources Authority will turn over the first, $17.5 million section of the project to the ASA in January, according to a WRA spokesman. The Toa Vaca dam itself constitutes the first of a proposed five-stage project, he said.

A spokesman for ASA said lines to carry water to Ponce are being completed, but that plans to harness the Toro Negro, Matacanas, Toa Vaca, Limon, La Venta and Yunes Rivers, as well as tunnels and conduits to provide water to the south central and southeast part of the island have been shelved, at least temporarily.

The vast Toa Vaca project was conceived under the former Popular Democratic Administration, but the STAR learned earlier this year the project was being reconsidered by the Ferre administration.

Advisers hired by the government said the project should be postponed for at

(See LACK, Page 20)

LACK OF FUNDS CLAIMED FOR DAM

(Continued From Page 1)

least five years because planning had been inadequate.

The advisers argued the delay is necessary in order to search for alternatives which might provide water for the dry southern areas at less cost to the government.

As conceived originally, the project would take at least 20 years to complete and would cost a minimum of $206 million.

Halting the project, at least temporarilly, after the first phase is essential, acording to the advisers, since if the second stage is begun, all five stages will have to be carried out.

The second stage of the project would cost $55 million.

RAMON M. GUZMAN & ASSOCIATES Puerto Rico
CONSULTING SANITARY ENGINEERS
FIRST FEDERAL BLDG. OFFICE 404 SANTURCE, P. R.

Correspondence
XR Water Supply

MEMORANDUM

To : Digital Distribution List

Subject : Interviews with Government officers in relation to water supply for Digital Puerto Rico

Date of Interviews: November 3, 1971

On November 3, 1971, Messrs. Ware and Guzmán visited several Government offices with the purpose of obtaining information relative to water supply for the Digital plant. This was the continuation of other visits made on the previous day.

Persons interviewed were the following:

Mr. José R. Goitía, Production Chief, Acueductos
Mr. Enrique Martinó, Chief, Maintenance Division, Acueductos
Mr. Manuel Bey Sánchez, District Manager, Mayaguez District, Acueductos
Mr. Robert Andrews, Geologist, U.S. Geological Survey
Mr. Carlos J. Guerra, Planning Director, P.R. Industrial Development Company

1. On questions concerning availability of water at San Germán, Mr. Goitía stated that at present the San Germán supply is scarce. The plant is overloaded, and several deep wells have been added to the system. San Germán used to supply water to Lajas, but a 1.0 mgd capacity plant was constructed at that municipality. Water is pumped from Lajas at times during the peak hours to provide additional water to San Germán. Mr. Goitía stated that if Digital needs additional water, a letter should be written asking for it. On occasions Acueductos can go to Fomento to determine if Government funds can be transfered to Acueductos to help the industry.

2. Mr. Manuel Bey Sánchez, on a telephone interview, gave similar points of view as Mr. Goitía in relation to availability of water at San Germán. He also indicated that the plant is overloaded.

BOX 1401 HATO REY, P. R. 00919

TEL. 722-2130

3. Mr. Rios Matta stated that the $200,000 contribution for the 24-inch pipe could be lowered, depending on circumstances. He suggested to discuss this matter with Mr. Hernández Vega, Assistant Executive Director. Mr. Hernández Vega is at this time on annual leave and will return to his office on November 24.

4. In relation to deep wells, Mr. Martinó indicated that there are two wells connected to the San Germán system. One is named El Retiro, which is located on Rd 2 near Rd 102 at Km. 5.3. The well operates with a submerged pump and its yield is 400 gpm. The second well is located on the premises of Mr. Sigfredo Sambolín on Rd 2 near the junction with Rd 318. It provides only 75 gpm. Mr. Martinó stated that it is difficult to obtain 800 gpm from that area, but that the best choice would be near the river banks. He further indicated that it may be possible to obtain 600-700 gpm from deep wells on the Sabana Grande plains.

5. Mr. Robert Andrews indicated that the largest underground water at that area is Northeast of Cabo Rojo, about 1 mile from the city proper, near La Ratine on Barrio Bajura. There are limestone formations at this location. He indicated that 10 mgd could be obtained from wells on the Guanajibo valley, according to the report "Reconnaissance of the Water Resources of the Guanajibo Valley at Cabo Rojo, Puerto Rico", printed 1968 by the USGS. The valley is really narrow. There is ground water potential, but may need a large field.

6. Mr. Andrews stated that there are three reliable well drillers in the island. They are the following:

Mr. Julio Chardón, Ponce
Mr. J. Vivas, Ponce

International Water Pollution, represented by
Mr. Ken Durham (Tel. 791-0379)

7. Mr. Andrews added that he does not think that the Sabana Grande area would be a good one for underground water. "Ti doesn't look so well", he stated. Concerning Lajas, he said that there is water but it is of poor quality. The best one is Cabo Rojo. Acueductos drilled a well in 1967 which has a yield of 750 gpm. It was drilled by Mr. Chardón in 1967. From 0-6 ft is top soil; 6-10 boulders; 10-30 brown limestone with boulder, 30-100 is hard blue rock. Mr. Andrews suggested drilling small test wells rather than a big production well.

8. Mr. Guerra stated that Acueductos agreed to provide 200,000 gpd to Digital as per letter of Mr. Victor Luis López of Acueductos to Mr. José A. Nuñez from Fomento. Answering questions as for additional water supply from Acueductos, Mr. Guerra stated that Fomento would have to check with Acueductos. He added that he will check if in some way Acueductos could provide the water. He suggested Digital to write to Mr. Owen Martínez, Director of the Planning Office (GPO Box 2350, San Juan, 00936). The letter should indicate the water needs. Then a meeting should be set with Acueductos and Fomento. The letter must specify number of employees, investment, benefits to the community, type of operation, disposal of industrial wastes, and other related information.

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
FIRST FEDERAL BLDG. OFFICE 404 SANTURCE, P. R.

Puerto Rico

Correspondence
Copies
Geo Beale. Geo Wood.
Roy Colson
Don Gates
Dan
File.

MEMORANDUM FOR RECORD

To : Digital Distribution List

Subject : Visit to Acueductos in Relation to Water Supply in the Southwest Area

X R Water Supply

WATER SUPPLY FOR DIGITAL

Date: November 2, 1971

Persons Interviewed:

Mr. Alvah R. Pierce, Chief, Data Division, Acueductos
Mr. Carlos Mulero, Acting Chief, Design Division, Acueductos
Mr. Javier Rios Mata, Acting Chief, Projects Division
Mr. José E. Solis, Assistant Chief, Urbanizations, Acueductos
Mr. Pedro Negroni, Assistant Chief, Production Division, Acueductos
Mr. José Belaval, Comercial Division, Acueductos

Highlights of the interviews are as follows:

A. Possible Project Sites

Añasco-Mayaguez

1. Acueductos (Puerto Rico Aqueduct and Sewer Authority) is constructing a 24-inch line from the Miradero plant at Mayaguez. The line will supply water to Añasco, which at present obtains its water from deep wells. Acueductos dig test wells to obtain additional water for Añasco, but the chloride content of the well water was too high and the only solution to cope with the higher demand at Añasco was to install the 24-inch line and bring the water from Mayaguez. About two years ago E. Lilly and Company a pharmaceutical plant located on the road from Mayaguez to Añasco, started using deep well water for its operations, but apparently something was wrong and now they are asking for water from the 24-inch line when completed.

BOX 1401 HATO REY, P. R. 00919 TEL. 722-2130

2. Mr. Mulero stated that Acueductos probably can supply the 800,000 gpd for the Digital plant. He said that there is capacity at the line and that at this time they can supply the water. He added that in case Digital selects the area along Mayaguez to Añasco along Puerto Rico Rd. 2, a letter must be written asking for the 800,000 gpd.

3. Mr. Rios Matta indicated that the 24-inch line was designed as a conductive line, not a distribution one. Thus, a reserve tank must be built by the plant. Minimum capacity of the tank should be one-day demand.

4. There is an industrial lot near the El Mani area at Mayaguez. The lot has already been approved by the Planning Board. Owner is Miguel A. García Méndez; designers were Sacmag from San Juan. There are 9 industrial lots, 10-12 acres each, in front of PR Rd 2. The only place where the 800,000 gpd can be obtained in Areas A and B is along PR Rd 2 from Mayaguez to Añasco, or at the area served by the Toa Vaca project according to Mr. Rios Matta.

5. One advantage of the Mayaguez area as to wastewater disposal is that a wastewater regional plant will be build within a couple of years. Oceanographic studies have already been completed, and EPA approved funds for the project. Regulations for wastewater discharge at the regional plants are very liberal, and wastewaters could be discharged with very little treatment. This will save the cost of a wastewater treatment plant.

6. Cost of water at the Añasco-Mayaguez site is about $6,020 per month. Digital would have to contribute with about $200,000 (800,000/264 x 100) for the project. A reserve tank of about 1 mg must also be constructed.

7. Water is cheaper at the Toa Vaca project, as it is raw water. Estimated cost to industries is $0.10 per thousand gallons. For 800,000 gpd, the cost would be about $303 per day. No contribution from industry is necessary if the plant is located in the Toa Vaca area. Neither no reserve tanks are needed.

8. A new industrial lot to be served by the Toa Vaca project is Finca Valdivieso. Manager is Ing. Carlos Meléndez Ramos, offices at the Planning Board Building.

9. The Toa Vaca dam will be completed by January 1972; the lines to serve the Corco area by June 1972. Capacity of the dam is 55,000 acre-ft. The pipe will start 66-inch, going to 54", 48", 42" and ending with 36-inch. Yield on the first stage is 23 mgd. The project consists of 5 stages for a total of 250 mgd, but it will take 7-8 years to complete it if approved by the Governor. At present the Planning Board is making a study to determine priority for the project.

10. Although Corco, Union Carbide and Pittsburgh Plate and Glass (PPG) are established in the Toa Vaca area, no request for water has been made by these industries. At present Acueductos has no committment with any industry for water. Of the 23 mgd, 14 mgd will be used for irrigation purposes. The other 9 mgd are uncommitted at this time.

11. The Toa Vaca dam will go from Guayabal in Juana Diaz and will feed the two filtration plants at Ponce. This will leave free the water from Lake Garzas, which supplies at present the "New" filtration plant. The "Old" filtration plant is feed from Rio Portugues. Garzas can supply 8-9 mgd, which will then be used for industrial purposes once the filtration plants get the raw water from Toa Vaca.

12. The cost of the Toa Vaca project, when all five stages is completed, is $248 million. Bureau of Reclamation will make the designed (if the project is approved). Supervision and administration will be Acueductos' responsibility.

13. Objections has been raised for indiscriminate use of deep well water. PPG dig wells without permission, taking 8 mgd of the Yauco aquifiers. The government and private citizens objected. Once the Toa Vaca project is completed, PPG should terminate with the use of deep well water.

14. Permission to obtain water from deep wells must be obtained from the Environmental Quality Board, The Public Service Commission, Department of Public Works, and Acueductos. It is better to obtain all these permissions and thus prevent future problems.

15. The Sabana Grande-Hormigueros-San Germán plains should be tested for deep well water. It is possible that a good location would be on the margins of Rio Guanajibo, near San Germán. It does not appear at this time too possible that all the 800,000 gpd could be obtained from deep wells in the area. Considerations should be also given to obtain raw water from Rio Guanajibo as an alternate source for the deep well water.

16. Industrial sites to study at this time are:

a) Near Ponce on the Toa Vaca area
b) On the Sabana Grande-Hormigueros-San Germán plains preferably near the Rio Guanajibo
c) Puerto Rico Rd between Mayaguez and Añasco

17. The domestic water systems at the municipalities included in Areas A and B are too small to assure delivery of the necessary water. Table I indicates data on the production of the public water supply systems at all the municipalities included in both areas, capacity of plants, population, etc.

TABLE I

WATER PRODUCTION BY MUNICIPALITIES LINE AREAS A AND B
AND OTHER PERTINENT DATA

System	Design Capacity (mgd)	Dist. Res.	Source	Treat-ment	Production in mgd as to July 1971	Population** (1970 Census
Aguadilla	8.0	1.35	Surf	(1)	5.4	51,332
Aguada	*	0.10	Surf	(1)	---	25,166
Moca	*	---	Surf	(1)	---	
Rincón	0.94	0.34	DW	(2)	0.34	9,350
Añasco	0.5	0.09	DW	(1)	0.61	19,296
Mayaguez	13.0	2.9	Surf	(1)	12.06	86,267
Cabo Rojo	2.3	0.418	DW	(2)	1.50	10,803
Hormigueros	0.4	0.162	DW	(2)	0.55	28,569
San Germán	1.47	0.725	Surf DW	(1)	1.47	27,769
Sabana Grande	0.7	0.26	Surf	(1)	0.72	16,301
Yauco	1.6	0.54	Surf	(1)	1.32	35,090
Guayanilla	0.79	0.167	DW	(2)	0.85	18,074
Guanica	0.58	0.10	DW	(2)	0.67	14,433
Peñuelas	0.5	0.52	Surf	(1)	0.67	14,910
Ponce	1.4	5.17	Surf	(1)	9.22	156,498
Lajas	1.0	0.57	Surf	(1)		

* Supplied from Aguadilla

** Birth rate: 24.8/1,000 pop.
Death rate: 6.1/1,000 pop.

(1) Complete

(2) Chlorination & Fluoridation

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
FIRST FEDERAL BLDG. OFFICE 404 SANTURCE, P. R.

MEMORANDUM

To : Digital Distribution List

Subject : Interviews with Government officers in relation to water supply for Digital Puerto Rico

Date of Interviews: November 3, 1971

On November 3, 1971, Messrs. Ware and Guzmán visited several Government offices with the purpose of obtaining information relative to water supply for the Digital plant. This was the continuation of other visits made on the previous day.

Persons interviewed were the following:

Mr. José R. Goitía, Production Chief, Acueductos
Mr. Enrique Martinó, Chief, Maintenance Division, Acueductos
Mr. Manuel Bey Sánchez, District Manager, Mayaguez District, Acueductos
Mr. Robert Andrews, Geologist, U.S. Geological Survey
Mr. Carlos J. Guerra, Planning Director, P.R. Industrial Development Company

1. On questions concerning availability of water at San Germán, Mr. Goitía stated that at present the San Germán supply is scarce. The plant is overloaded, and several deep wells have been added to the system. San Germán used to supply water to Lajas, but a 1.0 mgd capacity plant was constructed at that municipality. Water is pumped from Lajas at times during the peak hours to provide additional water to San Germán. Mr. Goitía stated that if Digital needs additional water, a letter should be written asking for it. On occasions Acueductos can go to Fomento to determine if Government funds can be transfered to Acueductos to help the industry.

2. Mr. Manuel Bey Sánchez, on a telephone interview, gave similar points of view as Mr. Goitía in relation to availability of water at San Germán. He also indicated that the plant is overloaded.

BOX 1401 HATO REY, P. R. 00919 TEL. 722-2130

3. Mr. Rios Matta stated that the $200,000 contribution for the 24-inch pipe could be lowered, depending on circumstances. He suggested to discuss this matter with Mr. Hernández Vega, Assistant Executive Director. Mr. Hernández Vega is at this time on annual leave and will return to his office on November 24.

4. In relation to deep wells, Mr. Martinó indicated that there are two wells connected to the San Germán system. One is named El Retiro, which is located on Rd 2 near Rd 102 at Km. 5.3. The well operates with a submerged pump and its yield is 400 gpm. The second well is located on the premises of Mr. Sigfredo Sambolín on Rd 2 near the junction with Rd 318. It provides only 75 gpm. Mr. Martinó stated that it is difficult to obtain 800 gpm from that area, but that the best choice would be near the river banks. He further indicated that it may be possible to obtain 600-700 gpm from deep wells on the Sabana Grande plains.

5. Mr. Robert Andrews indicated that the largest underground water at that area is Northeast of Cabo Rojo, about 1 mile from the city proper, near La Ratine on Barrio Bajura. There are limestone formations at this location. He indicated that 10 mgd could be obtained from wells on the Guanajibo valley, according to the report "Reconnaissance of the Water Resources of the Guanajibo Valley at Cabo Rojo, Puerto Rico", printed 1968 by the USGS. The valley is really narrow. There is ground water potential, but may need a large field.

6. Mr. Andrews stated that there are three reliable well drillers in the island. They are the following:

Mr. Julio Chardón, Ponce
Mr. J. Vivas, Ponce

International Water Pollution, represented by Mr. Ken Durham (Tel. 791-0379)

7. Mr. Andrews added that he does not think that the Sabana Grande area would be a good one for underground water. "Ti doesn't look so well", he stated. Concerning Lajas, he said that there is water but it is of poor quality. The best one is Cabo Rojo. Acueductos drilled a well in 1967 which has a yield of 750 gpm. It was drilled by Mr. Chardón in 1967. From 0-6 ft is top soil; 6-10 boulders; 10-30 brown limestone with boulder, 30-100 is hard blue rock. Mr. Andrews suggested drilling small test wells rather than a big production well.

8. Mr. Guerra stated that Acueductos agreed to provide 200,000 gpd to Digital as per letter of Mr. Victor Luis López of Acueductos to Mr. José A. Nuñez from Fomento. Answering questions as for additional water supply from Acueductos, Mr. Guerra stated that Fomento would have to check with Acueductos. He added that he will check if in some way Acueductos could provide the water. He suggested Digital to write to Mr. Owen Martínez, Director of the Planning Office (GPO Box 2350, San Juan, 00936). The letter should indicate the water needs. Then a meeting should be set with Acueductos and Fomento. The letter must specify number of employees, investment, benefits to the community, type of operation, disposal of industrial wastes, and other related information.

Puerto Rico
Nov. 1971

Copies: file, P Mosley, D Gates, Lou Beaupre, Bill Hanson, Geo Wood — Correspondence, XR Proposals, XR Waste Treatment

AGREEMENT BETWEEN RAMON M. GUZMAN AND ASSOCIATES, CONSULTING SANITARY ENGINEERS, SAN JUAN, PUERTO RICO AND THE DIGITAL CORPORATION, SAN GERMAN, PUERTO RICO, FOR THE PERFORMANCE OF ENGINEERING WORK RELATED TO WASTEWATER TREATMENT AND DISPOSAL AND OTHER PHASES OF SANITARY ENGINEERING

To provide professional engineering services for the treatment and disposal of industrial wastewaters from the Digital plant located at San Germán, Puerto Rico, in all its aspects of sanitary and environmental engineering. Consultation services will be provided, as well as all matters in these fields in which the contractor requires the services of these Associates.

1. For the performance of wastewater analyses including recommendations for better operation of the treatment facilities. This part of the services includes periodic visits to the plant at San Germán to observe wastewater treatment operations, collection of samples, chemical and sanitary analyses of the wastewaters, and all determinations necessary for the proper interpretation of the results of analysis; and related engineering work necessary to conduct acceptable operations for wastewater treatment and disposal. The visits should be made to the San Germán plant as necessary for the proper supervision and operation, but not less than once every two weeks.

2. Preparation of reports to the management of the Digital Corporation plant, and all other reports necessary for the Environmental Quality Board, Environmental Protection Agency, Department of Health, Aqueduct and Sewer Authority, Puerto Rico Industrial Development Administration, and other Commonwealth or Federal agencies, as may be required to comply with the existing laws and regulations.

3. Performance of Industrial Hygiene surveys at the plant proper or plant premises to insure that no abnormal emissions came out of the operations conducted at the plant. These surveys will shall be made with the frequency necessary to insure proper operations, but not less than four time a year.

4. Make the necessary recommendations in matters concerning Industrial Hygiene for the industrial plant, and prepare the necessary reports for the plant management and/or Government agencies.

5. The Associates shall be also responsible for matters concerning the disposal of solid wastes, prepare the necessary reports for the management and/or Government agencies including the Environmental Quality Board. The Associates shall provide professional guidance in matters concerning solid wastes and consultation in these phases.

6. Serve as a coordinator in San Juan for all engineering matters concerning the management of the plant, even if these are not related to sanitary or environmental engineering. The Associates shall be available for services which must be performed at the San Juan metropolitan area. The Associates also shall serve as coordinators for all phases of the plant operations.

7. The Associates shall assure that the disposal of wastewaters and matters related to air pollution a disposal of solid wastes, industrial hygiene, etc., are within the laws and regulations of the Commonwealth government.

8. It shall be the responsibility of the Associates to keep the management informed of any new laws, regulations, control, etc., that can be applicable to the operations of the Digital plant.

9. The Associates shall be responsible also for all industrial waters and raw waters that are treated for the industrial process. Analysis of the raw and process water shall be made as required.

10. The Associates shall be responsible for other phases of raw and process water including recommendations for additional water.

11. Associates shall be responsible for all maters dealing with operations in all the fields specified.

12. Preparation of letters, memorandum, etc., on matters related to wastewater disposal, sewage disposal, industrial hygiene, raw and process water, etc., to all parties mentioned, including government agencies.

13. The Associates are committed to perform all these services for the duration of one year after this contract is signed.

Reports, shall be made first in draft and discussed with the Digital management either at San German or Maynard. Once discussed, the Associates shall prepare the final draft for distribution. As well, the contents of some specific letters shall be consulted with the management before the final draft is prepared. All the work shall be performed in strict coordination with the Management at San Germán and/or Maynard.

PART B

(1) Design of units for wastewater disposal and related phases, or any design as may be required by Digital.

PART C

All other items that are not included in Part A and Part B shall be performed by the Associates. Separate agreements will be made in case these services are required.

PROFESSIONAL FEES

The Associates shall perform these services indicated in Part A for the lump sum of Seventeen Thouthand Two Hundred and Fifty Dollars ($17,250.00) plus travel and per diem expenses. Payments shall be made as directed by the Associates, but shall not be greater in any monthly billing for more than 1/12 of the total sum agreed. Travel, per diem and representation expenses shall be billed separately to the Corporation.

The Associates will perform these services described in Part B at the minimum rates engineering design as specified in the Professional Fees of the Colegio de Ingenieros, Arquitectos y Agrimensores de Puerto Rico.

PART C

Other services not included in this Agreement and required at the request of the Corp shall be performed by the Associates at the fixed minimum rate for consulting services of the Colegio de Ingenieros, Arquitectos y Agrimensores de Puerto Rico, which is at the present time one-hundred and fifty dollars ($150.00) per day.

Accepted this of , 1971.

RAMON M. GUZMAN AND ASSOCIATES

By Ramón M. Guzmán
Senior Partner

DIGITAL CORPORATION

By _____

Puerto Rico

Correspondence
XR Waste Treatment

Millie send him return file letter - invite to Maynard to discuss. AH.

sent letter 10/11/71

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
FIRST FEDERAL BLDG. OFFICE 404 SANTURCE, P. R.

00908

September 21, 1971

Mr. Allen Hanson
Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Dear Mr. Hanson:

I met Mr. Robert C. Marini, Senior vice-President of Camp Dresser & McKee at San Juan several weeks ago, and he told me on the possibility that these Associates may perform several works related to wastewater disposal for your Digital plant at San Germán. He told me that you will be in contact with us.

We will be glad to perform engineering works for your company, as related to wastewater disposal and other phases of environmental engineering, and wonder when we could meet with you or other officers of your company. In the past we have performed this type of work for the following companies:

Merck & Co., Barceloneta
Squibb, Humacao
Schering, Manatí
Searle & Co., Caguas
Reynolds Tobacco, Yabucoa
Westgate-Caribe, Ponce

We have also done engineering projects for the Department of Health and the Puerto Rico Aqueduct and Sewer Authority. We have our own chemical laboratories.

Should you think that there exists the possibility of performing the work for your company, I will be willin to go to Maynard and discuss this personally with you. It will be a pleasure to serve your company.

Cordially yours,

Ramón M. Guzmán
Senior Partner

725-6912
TEL. ~~722-3948~~

BOX 1401 HATO REY. P. R. 00919

Puerto Rico

Correspondence
XR Waste Treatment

Millie
send copy to
Bob Marini.
file

Bob.
Are they any good!!
Gus Hanson.

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
FIRST FEDERAL BLDG. OFFICE 404 SANTURCE. P. R.

September 21, 1971

Mr. Allen Hanson
Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Dear Mr. Hanson:

I met Mr. Robert C. Marini, Senior vice-President of Camp Dresser & McKee at San Juan several weeks ago, and he told me on the possibility that these Associates may perform several works related to wastewater disposal for your Digital plant at San Germán. He told me that you will be in contact with us.

We will be glad to perform engineering works for your company, as related to wastewater disposal and other phases of environmental engineering, and wonder when we could meet with you or other officers of your company. In the past we have performed this type of work for the following companies:

Merck & Co., Barceloneta
Squibb, Humacao
Schering, Manatí
Searle & Co., Caguas
Reynolds Tobacco, Yabucoa
Westgate-Caribe, Ponce

We have also done engineering projects for the Department of Health and the Puerto Rico Aqueduct and Sewer Authority. We have our own chemical laboratories.

Should you think that there exists the possibility of performing the work for your company, I will be willin to go to Maynard and discuss this personally with you. It will be a pleasure to serve your company.

Cordially yours,

Ramón M. Guzmán
Senior Partner

725-6912
TEL. 722-3948
BOX 1401 HATO REY. P. R. 00919

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
FIRST FEDERAL BLDG. OFFICE 404 SANTURCE, P. R.

file. Correspondence XK Waste Treatment

September 21, 1971

Mr. Allen Hanson
Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts

Dear Mr. Hanson:

I met Mr. Robert C. Marini, Senior vice-President of Camp Dresser & McKee at San Juan several weeks ago, and he told me on the possibility that these Associates may perform several works related to wastewater disposal for your Digital plant at San Germán. He told me that you will be in contact with us.

We will be glad to perform engineering works for your company, as related to wastewater disposal and other phases of environmental engineering, and wonder when we could meet with you or other officers of your company. In the past we have performed this type of work for the following companies:

Merck & Co., Barceloneta
Squibb, Humacao
Schering, Manatí
Searle & Co., Caguas
Reynolds Tobacco, Yabucoa
Westgate-Caribe, Ponce

We have also done engineering projects for the Department of Health and the Puerto Rico Aqueduct and Sewer Authority. We have our own chemical laboratories.

Should you think that there exists the possibility of performing the work for your company, I will be willin to go to Maynard and discuss this personally with you. It will be a pleasure to serve your company.

Cordially yours,

Ramón M. Guzmán
Senior Partner

BOX 1401 HATO REY, P. R. 00919

725-6912
TEL. 722-5948

Puerto Rico

I

file correspondence

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
FIRST FEDERAL BLDG. OFFICE 404 SANTURCE. P. R.

August 5, 1971

Mr. Al Hanson
Digital Equipment Corporation
San Germán, Puerto Rico

Dear Mr. Hanson:

On July 23, 1971 I received a letter from Mr. Robert C. Marini indicating that you will be contacting us for the purpose of discussing the possibility of providing services to the Puerto Rican operations of Camp Dresser and McKee and your plant. You called me the other day but I was out of my office, and after that I have been trying to contact you by telephone but it has been a difficult task.

I will be on the mainland during the week of August 9-13 and after my return I would like to contact you to discuss the possibilities of providing our services. I will be glad to make a trip to San Germán and discuss this possibility personnally with you. I will contact you after my return from the States.

Cordially yours,

Ramón M. Guzmán
Senior Partner

cc: Mr. Marini

725-6912
BOX 1401 HATO REY. P. R. 00919 TEL. 722-5848

Puerto Rico

Correspondence

AUG 4 1971

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
FIRST FEDERAL BLDG. OFFICE 404 SANTURCE, P. R.

July 28, 1971

Copy to Mr A Hanson 7/30/71

Mr. Robert C. Marini
Camp Dresser & McKee
Consulting Engineers
One Central Plaza
Boston, Mass. 02108

Dear Mr. Marini:

Thank you very much for your call on July 23, 1971. Unfortunately, I was out of my office at that time and could not talk to you.

As I told you and Victor Luis Lopez during the recent environmental pollution control meeting at the El San Juan Hotel, we will be very glad to do the industrial hygiene and environmental engineering works for the new plant in San Germán. We will be waiting for the call from Mr. Hanson, of Digital Equipment Corporationn. It will be a pleasure to see Mr. Hanson and discuss the services that we could provide.

I will be out of my office for one week starting August 8th on a mission with the World Health Organization at Mexico, but I will be back on August 11.

Sincerely yours,

Ramón M. Guzmán

Copy file R Carlson L. Best. Geo Wood. Ray! pls engage their services

BOX 1401 HATO REY. P. R. 00919

725-6912
TEL. 722-5948

Puerto Rico

Correspondence

(809) 723-6054
723-6085

JUN 11 1973

RAMON M. GUZMAN & ASSOCIATES

Consulting Sanitary Engineers

MONSERRATE 560 · SANTURCE, PUERTO RICO 00919 · P. O. BOX 1401 · HATO REY, PUERTO RICO 00919

June 6,1973

PROJECT: DEC de Puerto Rico
Aguadilla, Puerto Rico

MEMORANDUM FOR RECORD

On June 6, 1973 I had an overseas telephone conversation with Bill Krasnow in regard to the EIS for the Aguadilla plant. I indicated that the geologist has found possibilities of underground water at the Aguadilla site. He suggested that the draft EIS prepared be changed to reflect these findings.

Upon conversation with Bill, I suggested that due to normal delay from Government regulatory agencies in the revision of every EIS, it would be preferable for the sake of saving time to submit the EIS without the geologists findings, and keep said report for background information.

There is a time schedule for the construction of the facility at Aguadilla, and the construction permits are granted only after the EIS is submitted. At this time it is not sure if the Planning Board will require the waiting of 120 days after the EIS is submitted, but I think they will give the permit for the foundations once the EIS draft report is submitted. We were of the opinion that it is preferable to sacrifice report contents to gain time.

In view of this discussion, I sent the draft report for printing. The printer will have the report ready by June 11th. I hope to have the report of the Aguadilla plant at the Planning Board by June 13th, as the preparation of the book report will take about one day.

Ramon M. Guzman

cc: Esten
Hanson
Krasnow
Quiñones
Sidel
Wood

Puerto Rico

Correspondence

(809) 723-6084
723-6085

JUN 11 1973

RAMON M. GUZMAN & ASSOCIATES

Consulting Sanitary Engineers

MONSERRATE 560 · SANTURCE, PUERTO RICO 00919 · P. O. BOX 1401 · HATO REY, PUERTO RICO 00919

June 5, 1973

file

Mr. Alfred Sidel
Digital Equipment Corp.
Maynard, Mass. 01754

Dear Al:

Your memorandum of May 23, 1973 indicates that we discussed the Environmental Impact Statement for the DEC plant at Aguadilla with Fomento, on a meeting in which Victor M. García and other members of his staff were present.

Present at the meeting were Mr. Carlos R. Guerra, and J. Rivera Monje from Fomento, Bill Krasnow, Dr. Rafael Muñoz and me.

Victor could not be present, but I sent him a copy of the draft report. We hope to have ready the final draft by the end of next week.

By the way, the Fomento officers indicated that the EIS that we prepared is one of the best that they have reviewed.

Sincerely,

Ramon M. Guzman

cc: Mr. Esten
Mr. Hanson
Mr. Krasnow
Mr. Quiñonez
Mr. Wood

Puerto Rico

Correspondence

(809) 723-6084
723-6085

MAY 1 4 1973

RAMON M. GUZMAN & ASSOCIATES

Consulting Sanitary Engineers

MONSERRATE 560 · SANTURCE, PUERTO RICO 00919 · P. O. BOX 1401 · HATO REY, PUERTO RICO 00919

May 9, 1973

Mr. Carlos R. Guerra
R/D Laboratory
P.R. Industrial Development Company
Hato Rey, Puerto Rico

Dear Mr. Guerra:

We are herewith including for the comments of Fomento the Environmental Impact Statement for the proposed Digital Equipment de Puerto Rico plant at Aguadilla, Puerto Rico.

Once we have your comments, we will prepare the report for distribution to the 30 Government agencies for their comments.

Sincerely yours,

Ramon M. Guzman

cc: Mr. Esten
Mr. Hanson
Mr. Krasnow
Mr. Quiñones
Mr. Wood

Puerto Rico

Correspondence file

April 24, 1973

Mr. Ramon M. Guzman
Ramon M. Guzman Associates
Monserrate 560, Stop 15
Santurce, Puerto Rico

Dear Ramon:

Englosed please find a marked-up copy of the Environmental Impact Statement for Aguadilla.

Ed Schwartz, George Wood and I have reviewed the draft and all our comments are included in this one copy.

Please prepare final copy as soon as possible and begin submission process. Also send us three copies of the final draft.

Sincerely yours,

William D. Krasnow
Environmental Engineer

WDK/mm
Enclosure

(809) 723-6084
723-6085

RAMON M. GUZMAN & ASSOCIATES MAR 15 1973

Consulting Sanitary Engineers

MONSERRATE 560 · SANTURCE, PUERTO RICO 00919 · P. O. BOX 1401 · HATO REY, PUERTO RICO 00919

March 12, 1973

Mr. W. D. Krasnow
Digital Equipment Corporation
Maynard, Mass. 01754

Dear Bill:

I have been working on the items that you mentioned in your letter of February 22nd. and will answer you by items.

Item 1: Thanks for the congratulations on Mr. Ruckelshaus appointing me to the Effluent Standards Committee. Will try to do the best I can.

Item 2: Dry operations for Aguadilla: On Tuesday, March 6 I visited the sink-hole with Messrs. Pérez and Iglesias from EQB, and Martinez from Fomento. They indicated that sink-holes are getting "very popular" and that never have seen one. The sink-hole at Aguadilla is the biggest I have ever seen in the island. I explained that there are no deep well waters in the vicinity and that probably the wastewaters discharged will go down to the nearby ocean, adding that DEC plans to provide adequate treatment to the wastewaters but that the parameters to be requested by EQB should be reasonal. Messrs. Pérez and Iglesias did not want to commit to accept the sink-hole. We will include the proposed use of the sink-hole for the disposal of treated effluents in the EIS. I think that they will accept it, but am afraid on the degree of treatment that they will require.
The proposed standards for water quality criteria in Puerto Rico were developed on an environmental impact standpoint, without consideration of the economical impact nor the non-water considerations (e.g. requirements for extra energy as results of the implementation of the proposed standards). Since the "Water Bill" requires the application of the "best practical technology" with considerations of the economic impact and non-water considerations, eventually the local standards will be revised. The question is when the local Board will revise them. I understand that at this time they are reviewing the standards proposed on November 1972.

Item 3: Water - San Germán

The 80,000 gpd additional water was given by Acueductos. The water is being supplied from the Sabana Grande filtration plant. The additional 200,000 for a total of 360,000 gpd for the "wet" PTH facilities at San Germán could be obtained by having another deep well in the plant premisses, and make a contract with Acueductos for an additional well in the area near the old septic tank. Should the two wells at the plant premisses can not supply the extra 200,000 gpd required (or in case of emegency) then the water could be provided from the new wells to be developed by Acueductos. Acueductos will require from DEC to pay the bill of the project for the new wells. At this time Acueductos is making a cost estimate on this project.
Acueductos will develop a battery of wells in the Cabo Rojo area to supply additional water to San Germán. This project will take not less than 3 years for completion.

Item 4: New WW treatment facilities at San Germán

Should the "wet" operations are conducted at San Germán, a new ww treatment plant must be constructed, of course utilizing the existing facilities for process waste treatment. Be sure to indicate to the consulting engineers to provide facilities for sludge disposal. We are having difficulties figuring out how to dispose of the precipatated inorganic sludge of metalic hydroxides, as no facilities in this respect were provided in the original design. There are three alternatives for the discharge of the effluent, namely

a. Discharge to the new activated sludge plant. I am somewhat reluctant on this approach, as shock loads of metalic copper can easily upset the zoogleal remigera and other micro-organisms working on the aeration tank. Unfortunately, it is the most likely method to be accepted by EQB.

b. Discharge into Rio Guanajibo. This seems to me the most logical approach. Records compilled by the U.S. Geological Survey indicated that the flow, under normal conditions, could vary between 0.46 and 10 cfs as an average, although at times it goes to about 30 cfs. These waters are not used for potable purposes. Should EQB accepts, they will require extreme standards.

c. Discharging into Acueductos' effluent pipe. This could be done, thus mixing the DEC and the activated sludge effluents. In both alternatives (b) and (c) the distance from the DEC plant is about the same, 0.65 miles. DEC must have to pay for the sewer line. It is better to do the project through Acueductos, as it is

easier for them to obtain the right of ways. I sent a letter to Acueductos on these three alternatives,but as of this date I have not received any answer.

Item 5: Copy of flow records of Rio Guanajibo. I am including the records by separate letter.

Item 6: Tentative Discharge Limits for the Metal Finishing Industry. These limits will be revised shorty, and must be approved not later than October 1972, according to the law. I have the study made for EPA and will make a copy available to you. It is my feelihg that these limits will be liberalized a little to comply with the idea of "economical impact".

Item 7: I am working on the EIS and will have a draft copy to discuss with Al, George and you. Since I must be in Washington on April 3rd, I will fly to Maynard with the copy of the draft report for discussion.

Regards.

Sincerely,

Ramon M. Guzman

cc: Mr. Esten
Mr. García
Mr. Hanson
Mr. Quiñonez
Mr. Seigel
Mr. Wood

Puerto Rico

File
correspondence
XR Water
XR Effluent

digital

February 22, 1973

Mr. Ramon Guzman
Ramon M. Guzman & Associates
P.O. Box 1401
Hato Rey, Puerto Rico 00919

Dear Ramon:

It was a pleasure again talking with you last evening and congratulations on your appointment to Mr. Ruckelshaus' National Advisory Council. We at Digital think you are an excellent candidate for such an important EPA advisory position.

As I told you on the telephone our manufacturing managers now feel that the optimum location for the new plating facility is within our existing San German plant. We still propose to build a new manufacturing plant in Aguadilla which will apparently be "drier" and have little or no process waste waters. I can only assume at this time that it will be an assembly plant and that some operations from San German would move or expand to Aguadilla.

So my friend, here we go again with the same old problems - water supply and effluent discharge. If I recall the San German plant was consuming about 80,000 gpd on a one-shift operation. Since then we have requested an additional 80,000 gpd for a second-shift operation and have received approval from Acuaductos for this additional water. I understand this additional water is being made available from the adjacent town of Sabana Grande. Therefore, even without a PTH facility we may in the near future be consuming upwards of 160,000 gpd at San German. Using the same ground rules as in Aguadilla we will require an additional 200,000 gpd for the PTH facility, bringing our total water requirements up to .36 mgd.

DIGITAL EQUIPMENT CORPORATION, 146 MAIN STREET, MAYNARD, MASSACHUSETTS 01754
(617)897-5111 TWX: 710-347-0212 TELEX: 94-8457

We are hopeful that the well behind the San German plant, which we shall test ourselves next month, will prove fruitful. We should know by middle to late March. In the event this well pumps dry, where and how can we get the additional .2 mgd of water? As a result of this conversation and previous conversations I understand that there are no additional water supply programs presently in progress in the San German area and that the nearest likely deep well water source is in the aquifer near Cabo Rojo, five kilometers from the San German plant. Would you please immediately pursue this water supply question with Acuaductos, the USGS, and your other contacts? Remember, this water is required by November or December, 1973.

Obviously if we build a PTH facility in San German, we will have to construct a new waste treatment plant, and we would propose to pipe the treated effluent to the Guanajibo River. I believe this will be acceptable to Acuaductos. The EQB may present another problem. I believe you told me we must cross private property to get to the river. I would appreciate it if you could check this out further. In addition, I would like a copy of a report on the Guanajibo River, particularly the one which indicates both flow and quality. You said that such a report exists. Would you please deliver copies to George Beebe, and Al Sidel whom you are going to meet at Victor Garcie's office Tuesday morning the 27th at 10 AM. Please plan to spend Tuesday and most of Wednesday with them.

Digital does not have the reputation of being a polluter and therefore, we are prepared to meet effluent standards for the Guanajibo River. I understand from some of your recent letters that there are some proposed standards in Puerto Rico which appear to be in parts per billion which are absolutely inconsistent with the EPA recently discussed standards.

I am enclosing for your benefit, a document which you may or may not have already in your possession. It is entitled "Tentative Discharge Limits for the Metal Finishing Industry". I have asked George Wood to send you a copy of the complete report from which this one page was extracted. You will notice for example, that the proposed limits on copper are in the range of a fraction of a part per million rather than a fraction of parts per billion as we were discussing last week.

If we soon find that we cannot get adequate water and/or access to the Guanajibo River for effluent disposal, I imagine we will

revert back to the previous plan of constructing the PTH facility in Aguadilla. In the meantime, please, keep working on Aguadilla, the EQB and the sink-hole. To help you along, we have recently issued you a purchase order in response to your proposal to George Wood. You now will have a number to bill us from.

Once again, congratulations on your appointment, keep fighting for us in Aguadilla and San German and take care of my friends George Beebe and Al Sidel. Sorry, I will not be there to join you.

Regards,

Bill
m

William D. Krasnow
Facilities Planning

WDK/mm
Enclosure
cc: Ed Schwartz, Al Hanson

bcc: - G. Beebe, Al Sidel, G. Wood - files

Puerto Rico

Correspondence
x R Water

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
MONSERRATE 500 — SANTURCE, P. R.

JAN 8 1973

file

January 3, 1973

Mr. W. D. Krasnow
Plant Engineering
Digital Equipment Corporation
Maynard, Mass. 01754

Dear Bill:

As per our telephone conversation, I am including copies of the letters from Fomento and Acueductos regarding water supply for the proposed site for the new DEC plant at Aguadilla. The December 12, 1972 letter sent by Fomento to Col. K. B. Clark, of Ramey AFB, is the one that you need. As Col. Clark already answered the letter to Fomento, Owen Martinez is going to send a coppy of the letter with a transmittal one to Col. Turner at the Pentagon. Owen will send a copy of the transmittal letter to me.

Acueductos will send another letter to Col. Clark, with copy to Col. Turner. I expect that both letters are out by the end of the week.

Sincerely,

Ramon M. Guzman

cc: Mr. Esten
Mr. Hanson

P. O. BOX 1401 HATO REY, P. R. 00919 TELS. 723-6084 — 723-6085

Puerto Rico

correspondence
XR Water
W/ attachment

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
MONSERRATE 560 — SANTURCE, P. R.

JAN 2 1973

December 22, 1972

Mr. A. W. Hanson
Digital Equipment Corporation
Maynard, Mass. 01754

Dear Mr. Hanson:

For your information I am including a letter sent by Owen to the CO at Ramey AFB in regard to the use of water from the Base facility to the projected industrial area in Aguadilla.

Sincerely yours,

Ramon M. Guzman

cc: Mr. Esten w encl

cc
file
B. Krasnow.
S Wood.

P. O. BOX 1401 HATO REY, P. R. 00919 TELS. 723-6084 — 723-6085

Correspondence

COMMONWEALTH OF PUERTO RICO

PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY

G.P.O. BOX 2350 SAN JUAN, PUERTO RICO 00936

CABLE ADDRESS
"INDEVELCO"

Pueblo Aguadilla

December 12, 1972

Kenneth S. Clark, Commander
1640th Trade Air Base Wing
Ramey Air Force Base
Ramey, Puerto Rico 00604

Dear Commander Clark:

Further to my recent visit to Ramey to examine the possibilities of the Ramey Base water system as a fresh water source for manufacturing industry to locate near the Base, I would like to request your advise as to the procedural steps for obtaining the water thru a connection to the Ramey Base facilities.

The Puerto Rico Aqueduct and Sewer Authority has suggested that the Puerto Rico Industrial Development Company deal directly with Ramey in developing the agreement to supply the quantity of water needed by the proposed Digital industrial project.

As I mentioned to you during my visit, the Aguadilla location of the Digital manufacturing plant depends on whether the Ramey Base can make the necessary water available. Such plant location would greatly help the Puerto Rico Government effort in reducing the area's high unemployment and absorb some of the effect of the reduced Base activities. However, it is essential that we can guarantee 300,000 GPD of fresh water to be available within one year, and within three years increase this quantity to a total of 500,000 GPD for this project.

The proposed Digital project would locate on the land tract as shown in red on the attached map and would provide initially 200 jobs in the manufacture of computer components, increasing to 600 jobs within two years.

Further water demands for industrial projects will be supplied by the Puerto Rico Aqueduct and Sewer Authority within their programs for expanding the Aguadilla aqueduct system.

Please advise us as soon as possible on the above matter.

Cordially yours,

Juan Martínez Sandín, Director
Planning Office

Enclosure

JAS/lm

Puerto Rico

Correspondence
cc/file
Ed Schwartz
~~Bill~~
XR Waste Treatment

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
MONSERRATE 560 — SANTURCE, P. R.

DEC 20 1972

December 18, 1972

Mr. A. W. Hanson
Digital Equipment Corporation
Maynard, Mass. 01754

Dear Al:

I am including a letter dated December 12, 1972 from Mr. Victor Luis López in regard to the water facilities for DEC at Aguadilla. In summary, Mr. López indicates that at this time Acueductos does not have the capacity to supply the initial demand of 0.2 mgd because of limited distribution system at Bo. Aguacates, although it tends to indicate that the filtration plant can supply the demand.

Mr. López indicates two alternatives for the water supply, as follows:

1. "Initial Demand:
Connect to the 14 in line from Ramey AFB, installing about 4 km of 8-in pipe along Highway 467, then to Highway 450 to the industrial area. Estimated cost of the pipeline is $175,000. This must be coordinated with Ramey AFB, but at this time Mr. Larry Duffy, Special Assistant to the Governor, is working on it. The project will supply the 0.2 mgd initial demand required by DEC.

2. Ramey can not supply the 0.5 mgd ultimate demand needed by DEC. As the Industrial Park would need 2.0 mgd for its development, it will be necessary to obtain another source of water. Most economical is the irrigation channel from Aguadilla. A small dam must be constructed, including a lake on the joint of channel with Highway 459. A 3.0 mgd filtration plant must be constructed, with a distribution tank of 1.0 m.g., and the installation of about 4 km of 16-in pipe. Estimated cost of the project is $1.35 million.

Fomento should consult with the Environmental Quality Board, the Planning Board and the Department of Health for the disposal of the industrial wastes. The Aguadilla regional wastewater treatment system can accept the effluents once it is developed. The system will be completed in about 10 years."

I will contact Owen Martinez Sandín at Fomento to see what Fomento is planning to do in regard to this project. In the meantime, it is obvious that the alternative for the disposal of industrial wastewaters to the regional system is out of the question as a temporary measure.

Sincerely yours,

Ramon M. Guzman

cc: Mr. Esten
Mr. Krasnow

P. O. BOX 1401 HATO REY, P. R. 00919 TELS. 723-9064 — 723-6085

ESTADO LIBRE ASOCIADO DE PUERTO RICO
AUTORIDAD DE ACUEDUCTOS Y ALCANTARILLADOS

12 de diciembre de 1972

Ing. Owen Martínez Sandín
Director, Oficina de Planificación
Compañía de Fomento Industrial
Apartado 2350
San Juan, Puerto Rico

ASUNTO: Aguadilla - Digital Equipment Corp.

Estimado señor Martínez Sandín:

Me refiero a la carta del 18 de octubre de 1972, en la cual esa Compañía de Fomento Industrial nos indica que la Firma Digital Equipment Corporation está considerando la posibilidad de ubicar una de sus fábricas en el Barrio Aguacate de Aguadilla.

La demanda inicial de agua potable para dicha fábrica es de 0.2 m.g.d. Esta Autoridad en la actualidad no tiene capacidad suficiente en las cañerías del sistema de acueductos existente en el Barrio Aguacate, para suplir la demanda inicial solicitada.

A continuación le indicamos, en que forma estimamos se puede suplir de agua la Digital Equipment Corporation y el complejo industrial que ustedes se proponen establecer en el Sector Montaña del Barrio Aguacate de Aguadilla:

ALTERNATIVA NUM. 1:

Para suplir la demanda inicial de 0.2 m.g.d. para la Digital Equipment Corporation puede utilizarse como fuente de abasto en Planta de Filtración que suple la Base Ramey de Aguadilla, la cual está localizada cerca del Kilómetro 2.0 de la Carretera Estatal Núm. 467 en el Barrio Camaceyes. Será necesario conectarse a la cañería de 14" de diámetro que suple dicha Base y será necesario instalar aproximadamente 4 kilómetros de cañería de 8" de diámetro, primero a lo largo de la carretera antes mencionada, luego por una servidumbre de paso y finalmente por la Carretera Núm. 459 hasta el área industrial. El costo estimado de estas obras ascienden a $175,000.

Deseamos informar que para poder utilizar la Planta de Filtración de la Base Ramey como fuente de abasto, los industriales a establecerse en el área en coordinación con esa Compañía de Fomento Industrial tramitarán los permisos necesarios con el Gobierno Federal. Es bueno aclarar que el Sr. Larry Duffy, Ayudante del Gobernador de Puerto Rico, ha comenzado las conversaciones correspondientes con las oficinas en Washington que tienen a su cargo la Base Ramey.

ALTERNATIVA NUM. 2:

En el futuro cuando la demanda de agua de la Digital Equipment Corporation aumente a 0.5 mgd., la Planta de Filtración de la Base Ramey no podrá suplir la misma.

En el futuro para suplir la demanda de 2.0 mgd. del área industrial propuesta, será necesario utilizar otra nueva fuente de abasto.

Hemos determinado que la forma más económica de suplir la demanda de agua para todo el área industrial es, utilizando el Canal de Riego Aguadilla, el cual tiene capacidad suficiente para la demanda de agua solicitada. Será necesario la construcción de una toma de agua en dicho canal, incluyendo un lago regulador en las cercanías donde el canal cruza la Carretera Estatal Núm. 459 en el Barrio Arenales. Además, será necesario construir una nueva Planta de Filtración con capacidad para 3.0 mgd., un estanque de distribución de 1.0 mg. y la instalación de aproximadamente 4 kilómetros de cañería de 16" de diámetro, desde dicho estanque a construirse hasta el área industrial propuesta. El costo total estimado de estas obras asciende a $1,350,000.

En relación con las facilidades de alcantarillado sanitario esa Agencia deberá consultar a la Junta de Calidad Ambiental, la Junta de Planificación y el Departamento de Salud para la disposición de las aguas servidas de la industria a establecerse.

En el futuro cuando se construya el sistema Regional de Aguadilla para la disposición de las aguas servidas, esa industria se conectará a las cañerías de alcantarillado sanitario propuestas a instalarse en el Barrio Montaña.

Se estima que este sistema regional tomará en desarrollarse en su totalidad unos 10 años.

Cordialmente,

VICTOR LUIS LOPEZ
Jefe, Depto. de Servicios
Técnicos de Ingeniería

Puerto Rico

correspondence
XR Pollution Control

December 4, 1972

Mr. Ramon Guzman
Ramon M. Guzman and Associates
P. O. Box 1401
Hato Rey, Puerto Rico

Dear Ramon:

With regards to your letter to Al Hanson on November 24 concerning the Environmental Impact Statement for the Aguadilla site, I have gathered the following information which should be of some help in completing a draft copy.

As you are aware our operations do not normally contribute to air, noise or thermal pollution. I believe our wastewaters from electroplating processes are our only source of industrial pollution. If we assume a plated-through-hole facility in Aguadilla, then our primary contaminants would be copper, lead and tin; and perhaps some gold, cyanide and chromium. I have prepared the attached sheet of contaminants and the anticipated maximum concentrations. Please let me know if you see any problems with these limits.

Our present PTH facility in Maynard is a three shift operation and consumes approximately 150,000 gallons per day with a peak flow of 200 gallons per minute. We are now considering a recirculating deionized rinse water system for Maynard. If this system is placed in operation and proves successful, it would reduce our wastewater flow drastically; perhaps down to 40 gallons per minute. At this time, however, we cannot predict what type of rinses we will be using in the future and must stick with the 150,000 gallons per day figure. We are always concerned about contaminating one bath from another and to insure the quality of our product it is inevitable that we are going to have rinsewaters. To my knowledge the state-of-the-art has not advanced to the point where complete recirculation and re-use of rinsewater is economically feasible.

In any event if we were to locate in Aguadilla, we would provide waste treatment facilities for our industrial wastewaters, and also sanitary treatment facilities for our sanitary and BOD waste, and I doubt that our presence would have any detrimental effect on the environment.

If I can be of any assistance or if you have any questions, please do not hesitate to call me.

Cordially yours,

William D. Krasnow
Facilities Planning
and Engineering

mca

cc: Al Hanson
Ed Schwartz

December 4, 1972

ANTICIPATED MAXIMUM LIMITS OF WASTEWATER POLLUTANTS AT PROPOSED AGUADILLA PLANT OF DIGITAL DE PUERTO RICO

Contaminant	Maximum Concentration mg/l
Copper, Cu	1.0
Lead, Pb	.5
Tin, Sn	1.0
Gold, Au	1.0
Cyanide, CN	.2
Chromium, Cr +3	.5
BOD	20
pH Range	6 - 9
Suspended Solids	30
Temperature	Ambient

NOTE: Anticipated effluent concentrations will be less than the maximum shown above.

Puerto Rico

Correspondence
XR Land
XR Water

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
MONSERRATE 560 — SANTURCE, P. R.

DEC 5 1972

File

MEMORANDUM

To: Digital Distribution

Subject: Minutes of Meeting-New DEC Plant of Aguadilla

Date: November 29, 1972

Place: Mr. Arents office, Fomento Bldg., Hato Rey

Present at the meeting were the following:

Mr. C. Arents, President, PRIDCO
Mr. José A, Núñez, Vice-President, PRIDCO
Mr. Owen Martínez Sandín, Director of Planning, PRIDCO
Mr. Enrique Martínez, Planning Division, PRIDCO
Mr. Ed Schwartz, DEC, Maynard
Mr. William D. Krasnow, DEC, Maynard
Mr. Ramon M. Guzman, Coordinator

Water Supply

There are several alternatives for water supply for the proposed site. Indications are that Ramey could provide the water, but there is nothing sure in this respect. Fomento can not make a compromise on this water, as at this time no decision has been made, although the AF has indicated their willingness to allow civilian use of the water. Ramey's supply has the great disadvantage that defense will have priority, no matter what compromises have been made. The Ramey plant is of capacity of 3.5 mgd, but water from this source has been promised to 7 developments. The cost of water from the AFB is higher than that of Acueductos.

Another alternative is to enlarge the 12-in line. At this time Fomento has not anticipated how much will be the total use of water for the area. Should Digital and Fomento share the cost of the extension of the pipeline, they must be reinbursed by other industries or developments that would connect at a later time. A better solution is that Acueductos takes the full cost, not Digital or Fomento. An industry or development that would be interested in the area, should have its share now for assurance as to receive the amount of water that they would need. Fomento should work on a cost formula. It is better to have a larger diameter pipe so that it would not be necessary to add costs when additional line capacity is needed.

The Aguadilla filtration plant has a capacity of 5 mgd, but it was designed for two 5 mgd enlargements . Lake Guajataca, the source of raw water, can supply the 15 mgd to be plant.

P. O. BOX 1401 HATO REY, P. R. 00919 TELS. 723-6084 — 723-6085

There exists the possibility that a housing development be constructed near the site. Estimated water need is 120,000 gpd. Digital would need 200,000 gpd at the start. There are several alternatives for water supply, as follows:

Alt. 1: Pipeline from the filtration plant site
Alt. 2: From Route 107 to plant
Alt. 3: From Ramey AFB to plant

Each alternative should be evaluate with and without the housing development Mr. Martínez Sandin will make an evaluation and cost estimate of all the alternatives. He will meet with Mr. Pedro Hernández Vega of Acueductos to discuss the proposed project.

Another idea is to have a parallel line from Ramey and connect to the pipe. The line diameter is limited by the Ramey water production.

Domestic and Industrial Wastewaters

On a consultation with EQB, it was indicated that they might accept the discharge of completely treated domestic and industrial effluents into the sink-hole. EQB also indicated that they might agree to permit the discharge to a nearby creek. It is possible that EQB would accept these alternatives only as a temporary measure, until the Aguadilla regional wastewater treatment system is completed. EQB indicated that they may require some Phodamene tests for the sink-hole. In the long run, the disposal of the wastewaters must be to the regional plant.

For domestic sewage, there exists the possibility that EQB would accept a septic tank as a temporary solution. Should this is not accepted, as package activated sludge plant must be constructed.

There is no complete assurance on what EQB would accept until the Environmental Impact STatement (EIS) is prepared. It takes at least 120 days for final approval of the EIS. It should indicate all proposals for domestic and industrial wastewater treatment and disposal, as well as information on the plant itself. The EIS should be prepared as soon as possible.

Mr. Arents promised Mr. Schwartz to have the information of water within 15 days.

Cost of Land

DEC and PRIDCO agreed on the price of the land.

Submitted by

Ramon M. Guzman
Coordinator

cc: Mr. Arents, Fomento
Mr. Epsten, DEC San Germán
Mr. Hanson, DEC Maynard
Mr. Krasnow, DEC Maynard
Mr. Martínez-Sandín, Fomento
Mr. Martínez, Fomento
Mr. Núñez, Fomento
Mr. Schwartz, DEC Maynard

Puerto Rico

cc
Bill Krasnow
file
Correspondence
XR Waste Treatment

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
SONNEBORN BLDG. — SANTURCE, P. R.

NOV 30 1972

MEMORANDUM

To: Digital Distribution

Subject: Meeting with Mr. R. Cruz Pérez, EQB on Waste Disposal for Proposed DEC Plant

Date: November 24, 1972
Place: Mr. Rafael Cruz Pérez Office

Present at the meeting were the following persons:

Mr. Rafael Cruz Pérez, Associate Director for Air and Water, Environmental Quality Board.
Mr. Enrique Martínez, Fomento
Mr. Ramón M. Guzmán, In representation of DEC

Messrs. Guzman and Martinez explained the proposed project for DEC at Aguadilla, indicating that it will generate about 1,000 jobs for the region, which is an area of massive unemployment. It was indicated that the lot that Fomento plans to use is good for the proposed DEC plant, but that there is no near-by creek to discharge the treated effluents. Complete precipitation of the metallic ions in the inorganic waste will be provided in a process waste plant, while the domestic sewage will be treated in an activated sludge plant. Mr. Cruz Pérez indicated that the efficiency of the latter plant should not be less than 92%.

Mr. Cruz Pérez indicated that DEC should give consideration for the reuse of the water. Mr. Guzmán indicated that this is being considered, but that it is possible that the delicate operations to be conducted by DEC may affect the metal boards and other process material if the waste is re-used. Mr. Cruz Pérez suggested also to discharge to the Acueductos sewer line by constructing a trunk sewer line from the plant to the city, whose cost would be shared by Fomento, DEC and other industries that would establish in the area. The discharge to Quebrada de los Cerdos was also considered. According to Mr. Martínez, this creek is located at about 3 km from the site.

Mr. Cruz Pérez stated that he sees at this time no objection for EQB to let DEC to use the sink-hole as a temporary measure for the discharge of the treated effluents, but that he is of the opinion that either the construction of the trunk sewer line or the re-use of water are better choices.

It was indicated that an Environmental Impact Statement must be prepared to the Board indicating the proposed method of treatment and disposal of the domestic and industrial effluents, as well as other information relative to the environment. Thirty copies of the EIS must be distributed to several Government agencies. It takes usually 120 days for an EIS to be finally approved.

Should the sink-hole is used, tests with Rhodamine should be conducted to assure that the discharge wastes would not damage any underground water.

P. O. BOX 1401 HATO REY, P. R. 00919 TELS. 723-6084 — 723-6085

Puerto Rico

Correspondence
XR Water

CC
✓ File
Ed Schwartz.
D Knoll.
G Wood.
FYI

W/attachments

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
MONSERRATE 560 — SANTURCE, P. R.

NOV 28 1972

November 21, 1972

MEMORANDUM

To: Digital Distribution

Subject: Visit to Aguadilla to observe proposed site for new DEC plant

Date: November 15, 1972
Place: Mr. Ramon Añeses lot
Ramey AFB
El Montemar Hotel

Present at the meeting were the following persons:

Mr. Allen W. Hanson, Utilities Mgr, DEC Maynard
Mr. William D. Krasnow, Environmental Engineer, DEC Maynard
Mr. Owen Martínez-Sandín, Planning Director, Fomento, SJ
Mr. Enrique Martínez, Planning Division, Fomento, SJ
Mr. Orlando Rosa, Fomento Office, Aguadilla
→ Mr. Luis García, Ass't to the Deputy Exec Director, Acueductos, SJ
Mr. José Orsini, Urbanizations Division, Acueductos, SJ
Mr. Ramón Añeses, Land Owner, Aguadilla
Col. Clark, Commanding Officer, Ramey AFB
Mr. Osvaldo Alarcón, Deputy Civil Engineer, Ramey AFB
Mr. William Reichard, President, Industrial Committee, Aguadilla
Mr. Ramón M. Guzmán, Coordinator

The following are the highlights of the meetings:

Water Supply

1. DEC needs 200,000 gpd initially for their operations in the new plant, 540,000 gpd eventually. 200,000 gpd can be obtained either from the 12-in line Acueductos line which intersects at PR Rds 107 and 467, or directly from the Aguadilla filtration plant (Capacity 5 mgd). Distance from the 12-in line to Mr. Añeses property is about 6 km; distance from the filtration plant is 8 km. It was indicated that the best choice is to install the line from the filtration plant. 16-in line should be installed. Capacity for the 16-in line is about 4 mgd. Cost of piping, installed, is $41.50 per meter for the 16-in; $28.50 for the 12-in. Cost of 12-in line from the intersection of Rds 107 and 467 is $ 171,000. Cost of the 16-in line from the plant is $ 332,000.

P. O. BOX 1401 HATO REY, P. R. 00919 TELS. 723-6064 — 723-6065

2. Fomento can share the cost of the pipe, as they need water for developing the site There is a housing development in the planning stage for the area. Once developed, they must also share cost of the pipe, as well as industries that will locate in the area. The housing development will need 120,000 gpd of water. Mr. Añeses will meet with Mr. Arens, PRIDCO President, to discuss sale of the lot.

3. There is a good possibility that additional water be obtained from the Ramey AFB water plant. Col. Clark indicated that they will cooperate with the development of the area. Ramey plant is a complete treatment facility, capacity 3 mgd for water supply. It is located outside of the AFB premises. Mr. Alarcón indicated that at this time there is nothing for sure in respect to the use of water by the community. Mr. Duffy, a Special Assistant to Governor Ferré, has been in contact with officers at the Pentagon to make arrangements for the use of the water from the AFB.

4. Federal funds could be obtained for developing the area. The aid can be up to 80% of the total cost. Fomento is investigating this possibility. Once Fomento investigate this possibility, Mr. Hanson will get in touch with the DEC congressman. Mr. Guzmán will contact the Water Supply Division of EPA at Washington, once the project is submitted.

5. The DEC plant would be constructed before the land is develped, thus it is of utmost importance to start with the project for water supply. DEC can generate about 1,000 employees for the area. They expect to have the facility in operation within two years.

6. Acueductos water comes from Lake Guajataca. The raw water is rich in iron, from 1 to 3 mg/l. The iron is precipitated at the new filtration plant, capacity 5 mgd.

7. Fomento and users can share the cost of the water supply project. As the DEC plant would be constructed first, DEC can have a higher share initially and then accept credit on water bills after the industrial area is developed. Line will be funded by Fomento and DEC, but application for Federal funds will be made.

Wastewater Disposal

1. There are no creeks in the area of Mr. Añeses' property. Nearest creek is Quebrada de los Cerdos, about 8 km from the lot. Possibilities of discharge of domestic and industrial wastewaters are as follows:

a. Construction of a line to discharge at Quebrada de Los Cerdos
b. Discharge to the Ramey wastewater treatment plant
c. Septic tank with distribution box and tile field
d. Regional wastewater treatment plant and ocean outfall.
e. Sink-hole in the lot premises.

Alternative (a) needs 8 km of pipeline and is considered a poor choice, besides being expensive. Alternative (b) is out because the Ramey plant capacity is 1.02 mgd, their 8-in line is flowing at 80% capacity, and their lift station can not take additional wastewater. Alternative (c) could be used as a temporary measure until the regional treatment plant and pipelines are constructed. This is scheduled for 1976 completion, but probably will take two more years, to 1978. Permit would be obtained from EQB. Alternative (d) is a long-range solution, as it will not

completed within two years when the DEC plant is expected to start operations. Alternative (e) appears to be the best choice, but permit must be obtained from EQB. The big sink-hole at the lot premises could be used provided complete treatment is given to the domestic and industrial wastewaters. The use of sink-holes has been permitted in the past by the Department of Health at Florida (PR) to Acueductos, and at Barceloneta to an industry. Messrs. Guzmán and Martínez will contact EQB to inquire if its use would be permitted to DEC.

DEC San Germán

1. Mr. Guzmán explained to Mr. García on problems on waste disposal at the SG plant. Although DEC can precipitate in their process plant the copper ion, it is possible that on occation high copper concentration would go into the effluent, this affecting the micro-organisms growing on the activated sludge plant. As well, the 100,000 gpd waste flow from DEC is one-tenth of the capacity of the new plant, this reducing the capacity of the plant. Mr. García indicated that this must be discussed with Mr. Goitía, Acueductos' Production Chief.

2. Mr. Hanson expressed worries about water supply at San Gernán, and asked if there is any plan by Acueductos to increase the water supply. Mr. García will get in contact with Acueductos' Planning Division.

3. Additional water supply from deep wells will be obtained at the plant. A submergible pump, 160 gpm against 400 ft, was ordered.

Power New DEC Plant

1. A 38,000 ~~kw-hr~~ Voltline 13 are required for the new plant. No problem is forsee in this respect.

Degree of Treatment

1. Domestic wastewaters would have to be treated in a package activated sludge plant (Smith and Loveless or similar) if permit is granted for the use of the sink-hole. Complete precipitation of metallic ions must be provided at the process waste plant. Domestic flow estimate is 30,000 gpd average.

Follow-Up

1. Mr. Guzmán will ask for a meeting with Mr. Rafael Cruz Pérez, Associate Director for Air and Water, EQB, to determine if they would accept the discharge of treated effluent to the sink-hole. Mr. Martínez-Sandín will attend to this meeting.

2. Mr. Guzmán will contact the USGS SJ office to find out if tests have been conducted to determine where the wastewaters eventually go. It is believed that the discharge will reach the ocean.

3. Mr. Guzmán will call Mr. Goitía for a meeting at San Germán to discuss wastewater disposal at the new activated sludge plant. Water supply will also be discussed.

4. Mr. García will contact Acueductos' Planning Division to determine plans for additional water supply for San Germán.

5. Mr. Añeses will indicate results of the meeting with Mr. Arens for the development of the industrial lot.

6. Mr. García will obtain copy of the water lines and will send them to Mr. Hanson.

7. Fomento will prepare project for Federal aid for water supply and development of the land for industrial use.

Submitted by

Ramón M. Guzmán
Coordinator

cc: Mr. Añeses, Aguadilla
Mr. García, Acueductos
Mr. Esten, DEC San Germán
Mr. Hanson, DEC Maynard
Mr. Krasnow, DEC Maynard
Mr. Martínez-Sandín, Fomento
File Digital
Mr. Nuñez, Fomento

Subject: Follow-Up Nov 15/72 Meeting - As of Nov 21/72

Item 1 A meeting was set with Mr. Cruz Pérez for Friday at 9:00 A.M. at the EQB offices in San Juan. Mr. Martínez-Sandín will attend the meeting

Item 2 Will contact USGS once we know the results of the meeting with EQB

Item 3 Messrs. Guzmán and Goitía will meet in San Germán on Wednesday, November 22 at 9:00 A.M. Present at the meeting will be Messrs. Epsten and Quiñones from DEC San Germán, and Mr. Luis Velez Lugo, of Acueductos' Mayaguez District.

Item 4 Mr. García is looking for the information

Item 5 Will contact Mr. Añeses for result of the meeting

Item 6 Mr. García will send directly to Mr. Hanson the drawings of the water line.

Item 7 In the planning process

Submitted by

Ramón M. Guzmán
Coordinator

Subject: November 15 Meeting
Follow Up
Items 4 and 6

Item 4

The Planning Program for additional water supply for San Germán includes a new battery of deep wells in the aquifer between San Germán and Cabo Rojo, which according to the U.S. Geological Survey is about the only dependable source of deep-well water in the region. Studies were made to obtain additional water from the surface streams feeding the San Germán filtration plant, but the flow measurements indicated too low a volume to be dependable for the region's needs. Acueductos' Planning Division made a request for funds to HUD for the development of the deep wells. At this time the project has not been approved by HUD. The deep wells will be placed in operation once approval from HUD is received.

Item 6

Mr. Orsini is working on the drawings which show the water lines. The drawings will be ready in the course of this week, and will be send to Mr. Hanson at Maynard.

Puerto Rico

Correspondence
XR Plant Site
file

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
MONSERRATE 660 — SANTURCE, P. R.

NOV 8 1972

November 3, 1972

MEMORANDUM FOR RECORD

To: Digital Distribution

Subject: Site for DEC plant

On October 30, 1972 I received a phone call from Mr. Héctor Nieva, of Mayaguez, offering some land between Añasco and Mayaguez for the new DEC plant that may establish in Puerto Rico. Mr. Nieva had previously called Mr. Dick Epsten, who referred him to me.

I indicated that DEC is considering the possibility of establishing a new plant in Puerto Rico, but that at this time no decision has been made in this respect. The management, I indicated, is studying several sites in case that they decide to esbablish in the island.

I indicated to Mr. Nieva that water and sewer facilities is a "must" for the new site. He stated that he will send me a letter describing the facilities, water available, sewer and wastewater disposal, a map showing the location of the land, and other information. I also indicated that I am serving only as a coordinator, and of course there is no commitment, since the final decision is to be made by the top DEC managment at Maynard.

I will send the information that will be forward by Mr. Nieva and will include my comments.

Ramon M. Guzman
Coordinator

cc: Mr. Epsten
Mr. Hanson
Mr. Krasnow
Mr. Quiñones

P. O. BOX 1401 HATO REY, P. R. 00919 TELS. 723-6084 — 723-6085

Puerto Rico

CC correspondence
XR Drawings
√ file attached Drawing & Letter
DKnoll
Ed Schwarte.

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
MONSERRATE 560 — SANTURCE, P. R.

NOV 1 1972

October 26, 1972

Mr. A. W. Hanson
Digital Equipment Corporation
Maynard, Mass. 01754

Dear Mr. Hanson:

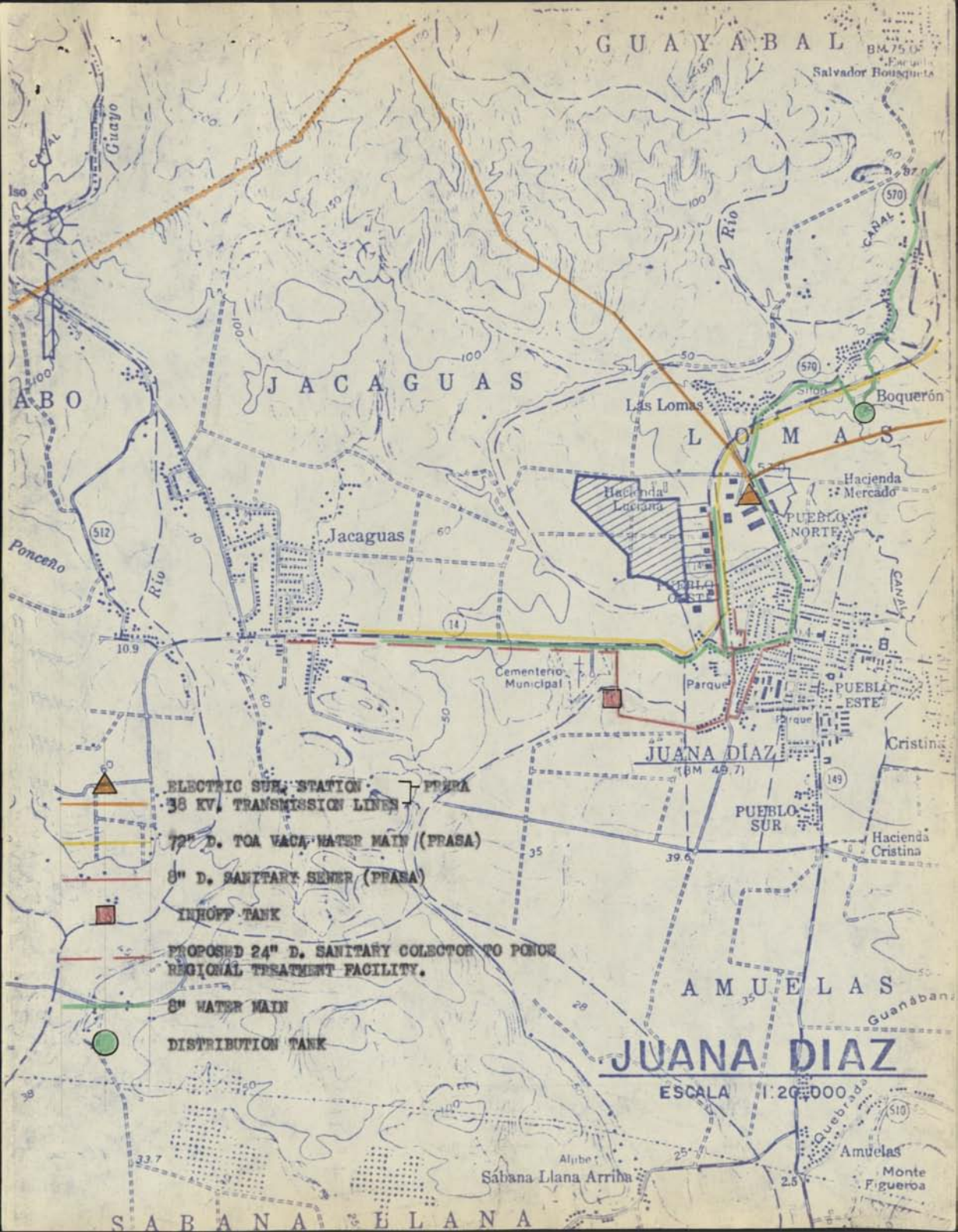
For your information and files I am including a drawing of the proposed site at Juana Díaz for the new DEC plant in PUerto Rico. This is the alternative site recommended by Fomento should no decision is made at the Aguadilla site.

Sincerely yours,

Ramon M. Guzman

cc: Mr. Epsten

P. O. BOX 1401 HATO REY, P. R. 00919 TELS. 723-6084 — 723-6085


GUAYABAL
Salvador Bousquets
JACAGUAS
ABO
LOMAS
Las Lomas
Boquerón
Hacienda Luciana
Hacienda Mercado
PUEBLO NORTE
PUEBLO OESTE
Jacaguas
Ponceño
Río
CANAL
Cementerio Municipal
Parque
PUEBLO ESTE
JUANA DIAZ
(BM 49.7)
Cristina
PUEBLO SUR
Hacienda Cristina
AMUELAS
Guanábana
Quebrada
Amuelas
Monte Figueroa
Sábana Llana Arriba
Aljibe
SABANA LLANA
ELECTRIC SUB. STATION
38 KV. TRANSMISSION LINES
PRASA
72" D. TOA VACA WATER MAIN (PRASA)
8" D. SANITARY SEWER (PRASA)
IMHOFF TANK
PROPOSED 24" D. SANITARY COLECTOR TO PONCE REGIONAL TREATMENT FACILITY.
8" WATER MAIN
DISTRIBUTION TANK
JUANA DIAZ
ESCALA 1:20,000

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
MONSERRATE 560 — SANTURCE, P. R.

NOV 1 1972

October 23, 1972

MEMORANDUM

To: Digital Distribution

Subject: Meeting at Fomento - Site for New DEC Plant

Date of Meeting: October 13, 1972
Place of Meeting: Mr. Owen Martínez Sandín's office at Fomento

Present at the meeting were the following persons:

Mr. Owen Martínez Sandín, Planning Director, Fomento
Mr. John Smith, Planning Office, Fomento
Mr. William D. Krasnow, DEC, Maynard, Mass.
Mr. Ramon M. Guzman, Coordinator

The following are the highlights of the meeting:

Acueductos can comit at this time 200,000 gpd of water at Aguadilla. A higher volume would be difficult to obtain. Fomento is working toward obtaining more water for the industries that would be located in the new Industrial Park. They have been in contact with the Ramey AFB to find out if they can obtain water and power from this Base. At the present time this is being discussed by a Special Assistant to the Governor, and the Pentagon. Mr. Krasnow stated that Digital is very happy with the operations in PUerto Rico and are considering the opening of a new plant for their PTH operations. He estimates that the new plant would need 500,000 gpd of water, of which 36,000 would be for domestic use.

Mr. Martínez indicated that the new plant at Aguadilla could discharge to Quebrada de los Cerdos, a small stream at about 2,400 ft from the site that Fomento would provide for DEC in Bo. Aguacate. A regional trunk line will be build on PR Rd 2. It will be in operation by June 1976, according to the present schedule (it may be delayed by one year). The new regional sewerage plant for Aguadilla is a 7 mgd initial capacity, 18 mgd future capacity.

Fomento is willing to share the cost of development for the land use and for additional water and treatment facilities, or the trunk sewer line from the Industrial Site to Quebrada de los Cerdos, or to the regional trunk sewer line.

The U.S. Geological Survey investigated an area near Bo. Guerrero for deep-well water. The cost of development is $ 100,000. Acueductos did not have the funds to share half of the cost, thus the project was not developed. Fomento would share the cost with Digital. There is a 50:50 chance of obtaining water at the site proposed by the USGS.

P. O. BOX 1401 HATO REY, P. R. 00919 TELS. 723-6084 — 723-6085

Mr. Martínez indicated that DEC should also consider a location in Juana Díaz, a small municipality located at about 8 miles from Ponce. Fomento can supply 1.2 mgd of raw water from the Toa Vaca project. The water should be treated for the removal of color and turbidity. Mineral constituents in this water is of a low concentration. Sewerage facilities will be available in a near future, as a trunk sewer line will be constructed to deliver the sewage wastewaters to the new regional sewage treatment plant at Ponce. DEC would have to share part of the cost of the trunk sewer line.

There are adequate power facilities both at Juana Diaz and Aguadilla. The Aguadilla site is very close to the Ramey AFB. Fomento can share the cost of extending the power line.

Mr. Martínez Sandín indicated that Fomento will help DEC in the location of the new plant and in obtaining the necessary water, sewer facilities and power. He indicated his desire of receiving the Location Questionaire, as at this time they have none for the new plant.

Submitted by

Ramon M. Guzman
Coordinator

cc: DEC

Mr. Epsten
Mr. Hanson
Mr. Krasnow
Mr. Carlson

Fomento

Mr. Martínez Sandín
Mr. Nuñez
Mr. Smith

DEC file

Puerto Rico

Correspondence
C. C.
File
Bill Krasner

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
MONSERRATE 560 — SANTURCE, P. R.

OCT 3 1972

September 29, 1972

XR Pridco
XR Waste Treatment

Mr. A. W. Hanson
Digital Equipment Corporation
Maynard, Mass. 01754

Dear Mr. Hanson:

During the meeting I had today with Mr. Nuñez, Fomento's Vice-President, he asked me to fill the Location Questionnaire of the P. R. Industrial Development Company for the proposed new DEC plant in Puerto Rico. Although at this time it is not known if the plant will be established here, or where it will be established, they need the information required in this questionaire, especially on utilities, peak requirements for water, quality of water needed and quality of the industrial process wastewaters.

I am herewith including the Location Questionaire.

Sincerely yours,

Ramón M. Guzmán

cc: Mr. Esten

P. O. BOX 1401 HATO REY. P. R. 00919 TELS. 723-6084 — 723-6085

PUERTO RICO INDUSTRIAL DEVELOPMENT COMPANY
PLANNING OFFICE
LOCATION QUESTIONNAIRE

The information you are to furnish below, is needed to provide our Planning Office with an intelligent basis for helping you in the selection of a suitable site for your project, or to help you evaluate a location tentatively selected. It is designed to protect you against any future inconvenience that may arise through faulty location, and to protect other firms already established in your vicinity.

Please be specific in your answers. Do not give answers such as "normal for this type of operation", where you could be more specific. Please furnish information in addition to that required whenever you deem necessary. Future needs should be covered when possible.

Please sign this form when completed to your satisfaction. Thank you.

I. GENERAL INFORMATION
- A. Proposed local firm's name: _____
- B. Parent firm's name and address _____
- C. Name and address of local representative or manager: _____

II. TYPE OF ACTIVITY
- A. Basic Product(s): _____
- B. Description of operation (use separate sheet if necessary): _____
- C. List of machinery with individual weight and area covered by base:

Machine	Weight	Area	Machine	Weight	Area

III. UTILITIES
- A. Electric Power Requirements:
  1. Initial demand:
     a. KVA: _____ b. Horse Power: _____
  2. Voltage and phases:
     a. _____ V. b. _____ phases
  3. Future demand:
     a. KVA: _____ b. Horse Power: _____ c. Date: _____
  4. Other comments: _____
- B. Water Requirements:
  1. Initial consumption (GPD) _____
  2. Duration (hours/day) : _____
  3. Peak rate of use (GPM) : _____
  4. Duration of peak use : _____
  5. Future consumption
     a. GPD: _____ b. Date _____
     c. Duration (Hours/day) : _____
  6. Special characteristics desired (purity, chemical content, temperature, salinity, etc.): _____
  7. Type of fire protection required: _____
  8. Breakdown of water uses (% of GPD)
     a. Industrial process: _____
     b. Sanitary uses : _____
     c. Cooling purposes : _____
     d. Air conditioning : _____
     e. Steam production : _____
     f. Other: _____
- C. Sewer Facilities
  Will your industrial plant produce any effluent other than the normal sewerage from sanitary facilities? Yes: _____ No: _____
  1. Initial total volume of waste (GPD) _____
  2. Duration of discharge (hours/day) : _____
  3. Peak rate of discharge (GPM) : _____
  4. Duration of peak discharge : _____
  5. Future discharge of waste : _____
     a. GPD: _____ b. Date: _____
  6. Plans for treatment of waste: _____
  7. Submit certified copy of physico-chemical analysis of waste originated in similar plant, including:
     a. Temperature
     b. pH (alkalinity or acidity)
     c. BOD (biochemical oxygen demand)
     d. Cholorine demand
     e. Toxic and polluting substances
     f. Solids Concentration
        1. suspended solids
        2. volatile solids
        3. settleable solids
        4. Total solids
  8. Description of process using water: _____
  9. List of chemicals used: _____

IV. SITE

A. Size of Lot required: _____

B. Breakdown of land use in square feet:

1. Main building : _____ 5. Parking: _____
2. Accessory building : _____ 6. Landscaping: _____
3. Outdoor manufacturing: _____ 7. Other uses: _____
4. Outdoor storage : _____

C. Special requirements as to location (community preference, geographic orientation, climatic conditions, proximity to waterfront, etc.): _____

D. Subsoil conditions, indicating soil bearing desired: _____

V. BUILDING

A. Floor area required: _____

B. Type of structure (number of floors, height of roof, type of roof, etc.): _____

C. Special requirements (floor bearing capacity, air conditioning, etc.): _____

D. Future expansion:

1. Size: _____ 2. Date: _____

VI. CHARACTERISTICS OF PROCESS

A. Raw materials:

1. Itemize materials: _____

2. Source: _____

3. Fire explosion or health hazards associated with materials used: _____

4. Plans for storage facilities (raw materials and product): _____

B. Obnoxious conditions originated in proposed operation (dust, odors, fumes, smoke, noise, vibrations, etc.): _____

C. Similarly, describe possible environmental factors to which operations may be peculiarly sensitive: _____

D. Proposed special treatment, such as: smoke abatement, floor padding, dust extraction, air conditioning, etc.: _____

VII. LABOR FORCE

A. Number of employees:

1. At full production (_____ months after start):

a. Male: _____ B. Female: _____ c. Total: _____

B. Number of work shifts: _____

VIII. ADDITIONAL COMMENTS

_____

_____

_____

_____

If the information above presents, in your opinion, a true picture of your contemplated Puerto Rican operation, and may be used by our Planning Office to determine the best possible location for your factory, please so signify by signing below.

Signature: _____ Firm: _____

Title : _____ Date: _____

NOTE: This information will be handled in the strictest confidence and will not be undully disclosed to any personnel not related to the firm or engaged in the selection of the site.

Puerto Rico

correspondence
CC XR Water.
✓file XR Plant sites
Geo Beebe.
Bill Krasnow.
Dave Knoll
Ed Schwartz.

RAMON M. GUZMAN & ASSOCIATES
CONSULTING SANITARY ENGINEERS
MONSERRATE 560 — SANTURCE, P. R.

OCT 6 1972

MEMORANDUM

To : Digital Distribution

Subject : Meeting at Fomento to discuss possible sites for proposed DEC plant

Place of Meeting : Mr. José A. Nuñez Office, Fomento Bldg., Hato Rey, Puerto Rico

Date of Meeting : September 29, 1972

Present at the meeting were the following persons:

Mr. José A. Nuñez, Vice-President, PRIDCO (Fomento)
Mr. Owen Martínez Sandín, Director of Planning, Fomento
Mr. J. Villamil, Fomento
Mr. Ramón M. Guzmán, in representation of Digital

The following are the highlights of the meeting:

1. On September 27, 1972, Mr. Guzmán received a phone call from Mr. Owen Martínez asking for a meeting to discuss several aspects concerning the location of the new DEC plant in Puerto Rico. The meeting was set for September 29th at Mr. Nuñez office.

2. Mr. Martínez indicated Fomento's worries as to the amount of water needed by the proposed DEC plant at Aguadilla. The area at this time can not supply the 800,000 gpd that the DEC operations would require. There exists the possibility that in the future enough water for the Aguadilla area would be available, not only for the DEC plant, but for other plants that will establish in a new Industrial area near the city. However, at this time there is not enough water. Fomento and Acueductos have considered the use of water from deep wells, going to a depth of about 1,500 ft., but Acueductos did not want to participate in the project, even considering that Fomento would contributed with $50,000 for the development of the deep water supply.

3. Mr. Martínez indicated that Acueductos could supply only about 200,000 gpd from the filtration plant, but this apparently is too low for the DEC needs. Considerations should be given to re-use of water. Local regulations require that all industries must recirculate and re-use water whenever possible.

4. Fomento and Acueductos are considering the use of water from the Ramey Air Force Base at Aguadilla, but at this time there is nothing sure about this possibility, as the necessary negotiations must be carried on. This is for future water supply.

5. Mr. Nuñez indicated that studies performed by the U.S. Geological Survey have indicated that the ground water resources in the area are poor, and that no assurance could be given on any amount of water from this source.

6. Mr. Nuñez is of the opinion that since the amount of water required by the DEC plant can not be obtained, considerations should be given to another alternate site. He suggested an area in Juana Díaz (10 min. from Ponce) on Hacienda Luciana, near the new Ponce-San Juan highway. There are 13 mgd available of raw water at this site from the Toa Vaca project. Fomento can provide 1.2 mgd to DEC. The water is not treated, thus DEC must install its own treating and filtering facilities.

7. A new trunk sewer line will be constructed at Juana Díaz to conduct the wastewaters to the Ponce regional plant, now under construction. There is a 38,000 volt line near the plant site. The site is west of the municipality of Juana Díaz, near the GE plant. Should this site is selected, the disposal of process wastewaters would be through the new trunk sewer line. DEC must contribute with funds for the construction of the sewer line, as it is now required by Federal regulations. The site is also near the Jacaguas river, thus additional water could be obtained from that source.

8. Mr. Nuñez also suggested a site on Barrio Santana near Arecibo, where the 800,000 gpd of water could be obtained from ground sources. This site is close to the Arecibo airport. Should DEC decide on this site, Fomento can contribute with $50,000 for the development of the ground water resources. DEC would have to share the extra cost.

9. Mr. Guzmán indicated that three engineers from DEC at Maynard will be coming to San Juan to discuss several points in regard to the location of the proposed DEC plant. A meeting was set at Mr. Nuñez office for October 12, 1972 at 9:30 A.M. with the officers from Maynard.

Ramón M. Guzmán
Coordinator

cc.: Mr. Carlston
Mr. Esten
Mr. Hanson
Mr. Mackey
Mr. Martínez
Mr. Nuñez
DEC file

ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE $300
AN EQUAL OPPORTUNITY EMPLOYER

POSTAGE AND FEES PAID
U.S. ENVIRONMENTAL PROTECTION AGENCY
EPA-335

U.S. MAIL

Environmental News

Clapper (703) 557-7[illegible]
Deister (202) 755-0344

FOR RELEASE A.M.'S TUESDAY, FEBRUARY 6, 1973

EPA APPOINTS EFFLUENT STANDARDS ADVISORY COMMITTEE

The Environmental Protection Agency today announced that nine persons have been appointed by Administrator William D. Ruckelshaus to form the Effluent Standards and Water Quality Information Advisory Committee.

The committee was created by the Federal Water Pollution Control Act Amendments of 1972 to advise the Administrator on the development of new effluent standards and water quality information.

It will conduct public hearings and provide technical information to the Administrator for making decisions on the effluent standards. The standards are used in the issuance of wastewater discharge permits as required by the new water law.

The committee is composed of Don E. Bloodgood, William W. Eckenfelder Jr., Robert B. Grieves, Ramon Guzman, Lloyd Smith Jr., Martha Sager, Blair T. Bower, Robert McCall, and Glenn Paulson.

(more)

Bloodgood, 70, is professor emeritus of sanitary engineering at Purdue University, West Lafayette, Indiana, and has had long experience in the fields of municipal and industrial waste treatment.

Eckenfelder, 58, who is distinguished professor of environmental and water resources at Vanderbilt University, Nashville, Tennessee, is an expert on biological treatment of sewage and industrial wastes.

Grieves, 37, is a professor and chairman of the Department of Chemical Engineering at the University of Kentucky in Lexington. He has specialized in industrial water and waste treatment.

Guzman, 49, a chemical engineer with the School of Medical Science at the University of Puerto Rico, San Juan, is a specialist in industrial waste problems and is in charge of all water and sewage operations for the Puerto Rico Aqueduct Authority.

Smith, 63, a professor in the Department of Entomology, Fisheries and Wildlife at the University of Minnesota in St. Paul, is an expert in the effect of water quality on fisheries and other aquatic life.

Mrs. Sager is a professor and director of Environmental Systems Management Program within the Center for Technology and Administration, College of Public Affairs at American University, Washington, D.C. She specializes in sanitary engineering and industrial microbiology.

Bower, 47, is associate director of the Quality of Environment Program of Resources for the Future in Washington, D.C. A social scientist, he has worked with the Delaware River Basin Authority.

McCall, 59, is director of Environmental Health Services of the West Virginia Department of Health in Charleston.

Paulson, 31, is a staff scientist with the Natural Resources Defense Council in New York City. He worked with Dr. Rene DuBos in the Department of Enviro-Biochemical Medicine at Rockefeller University in New York.

# # #

PRESENTATION AT THE ENVIRONMENTAL QUALITY BOARD ON THE PROPOSED REGULATIONS FOR THE CONTROL OF WATER POLLUTION

Ramón M. Guzmán
Sanitary Engineer

I wish to start my presentation by stating that as a citizen worried about the necessity of maintaining an adequate environmental quality, I feel satisfied about the work done by the Environmental Quality Board (EQB) in its short period of existence, in spite of its limited personnel and budget. It is gratifying to observe how the Commonwealth public policy of environmental control has changed from a non-defined policy to a defined one, as it is P.L. 9 of 1970, which created the Board and required the definition of parameters for the control of pollution.

The definition of the regulations for control of water pollution which is being proposed and discussed in these public hearings is a clear advance on the old regulations Nos. 128, 129, 130 and 131 of the Department of Health, which still are in force. The proposed regulations prepared by the Board are necessary to preserve our environment. These will permit, with the help of other Government agencies, the maximum utilization of our natural resources and will prevent the indiscriminate use of the environment, as was and still is the case.

Although I truly consider the implementation of these regulations a necessity for the preservation of our environment, I also consider it my duty as a citizen to indicate that the standards proposed are unrealistic ideals which both government and private industry will find difficult to meet.

Should these standards be accepted as proposed, the constructions costs for the additional plants required, operation, maintenance and other inter-related costs would be too high to be absorbed by the several government agencies, which at this time lack the necessary funds for the projects

required to comply with the proposed regulations. I estimate that the Aqueduct and Sewer Authority, an agency with financial difficulties at the present time, would need not less than $750 million to construct additional facilities to comply with the proposed regulations. It will be necessary to provide terciary treatment at all the wastewater treatment plants, and to maintain around-the-clock operation with supervision and engineering. I do not feel that at the present time any one of the installations of waste treatment operated by the Aqueduct and Sewer Authority can comply with these regulations, which are idealistic in my opinion. Fuentes Fluviales, as well as Acueductos, would also have to make costly radical changes for their plants to comply with the standards. Other agencies as the Department of Agriculture will also need additional funds. All these agencies are having economic difficulties at the present time, according to a report which was released recently.

The most illogical of the standards, I think, is to require the quality of wastewater to be at a superior level than that of drinking water. For example, if the U. S. Public Health Service and the Department of Health accept drinking water with a concentration of 1.0 mg/l of copper, I do not see any sense in requiring a standard of 0.005 mg/l in the industrial wastewaters. This parameter is 200 times more limited than drinking waters. A 0.05 mg/l is required for iron, which is 6 times more limited than the standard set by the USPHS for drinking water, even considering that the standard of 0.3 mg/l for drinking water is an aesthetic rather than health consideration. Other parameters which are more restrictive than those for drinking water are nitrogen, silver, lead, zinc, and even chlorides. Most

of the other parameters required are the same as those promulgated for drinking waters by the USPHS. To require parameters of quality equal or superior to drinking waters would result in an excessive cost and use of public funds by the government. In some cases, even with the most advanced technology known at the present time, it is impossible to comply with the proposed parameters.

In my opinion, the proposed standards are not applicable to the special conditions of Puerto Rico, and apparently were copied word for word from the standards of other states with specific problems that may require a water quality to the equivalent of terciary treatment. This is not the case of Puerto Rico.

For many years we have tried to use criteria and regulations exactly as they are in mainland United States. This has resulted in errors. For many years I have been indicating the necessity to define criteria for design of wastewater treatment plants for Puerto Rico and countries with a tropical climate. The design criteria that we are using, the same one being used in the United States, does not necessarily apply to our condition.

The proposed regulations issued by the Board require a B.O.D. of 8 mg/l for wastewaters. It has been the practice in the United States to make estimates of organic load to a receiving body of water, using a base of 5 days or the ultimate demand of 20 days. This is correct in the United States. For example, an organic discharge to the Mississippi River in the Northern part of the United States would take 20 or more days to reach the Mississippi Delta in New Orleans.

It is logical that, in this case, the estimate of organic load be made on the basis of 20 days. Furthermore, these waters pass through several states; it is logical that public policy for water pollution control in the United States protect the waters downstream in other states. The case of Puerto Rico is very different. Any discharge in any river does not take more than 12 hours to reach the ocean, thus the oxygen demand to be requested from the river should not be estimated on the basis of 5 or 20 days, as these would require dissolved oxygen from the river waters only from the time of discharge to when it mixes with the ocean. This would result in an organic demand of only half a day, or less, which is equivalent to about 20 percent of the 5 days which we estimate in Puerto Rico, and that apparently is the rational in the proposed standards prepared by the Board. Of course, the chemical analysis must be made on the basis of 5 days, which is required by the standards, but the estimate of organic load to the receiving body and the interpretation of the analysis should be made according to the realities of the case of Puerto Rico.

The ample oxygen resources of the ocean waters surrounding Puerto Rico are well known. To require an effluent with 8 mg/l for wastewaters discharged to Class SD coastal waters, or 3 mg/l for Class SC waters, is very restrictive.

It is the practice in the United States to require restrictive standards for the discharge of wastewaters to coastal waters. Their case is different. Most of these wastewaters can return to the shorelines of other States, due

to the shallow coastal plains and the low velocity of the surface currents. The ocean currents in Puerto Rico, with the nearby Puerto Rico trench are very different from those of the United States. Our ocean is much deeper; the amount of water available for dilution is much higher.

Why should we request an oxygen demand so limiting in our case? Why must the Commonwealth government construct terciary plants for the discharge of treated wastewaters into the ocean? The past administration of the Environmental Protection Agency agreed, and in fact suggested, the construction of primary treatment plants with submarine outfalls for the specific case of Puerto Rico. Why go to an extreme and request a B.O.D. of 3 or 8 mg/l in the effluent?

A submarine discharge 150 ft deep in the ocean with wastewater effluents adequately treated would not result in a deterioration of our waters. Utilizing data from studies made by the Water Resources Research Institute of the Mayaguez Campus of the University of Puerto Rico, we consider a discharge on a one square mile area at 150 ft. depth, with a velocity of 10 knots, in one hour a total flow of 1.65×10^{13} gallons of water would mix with the effluent. The Mississippi River or the Amazon, would look like simple creeks compared to the available flow in our coastal waters. On the basis of a D.O. saturation of 6.4 mg/l in these waters, the available oxygen for the oxidation of these wastewaters would be 88.1×10^{13} lbs. per hour. This example indicates that we have in Puerto Rico more natural resources for the oxidation of wastewaters than any other State in the U. S. These natural advantages must be utilized as our ally for the disposal of wastewaters, thus making possible the saving of public funds, utilizing a treatment more in accord with our economical and

environmental realities.

The regulations proposed for total dissolved solids are so limiting that several municipalities, such as Maunabo, Guánica and Guayanilla could not comply with them even assuming that the waters receive no additional pollutants.

The standard for bacterial contamination, also apparently the same one being used by the U.S. mainland, should not be applied to Puerto Rico. Our population density, fourth in the world, is such that the rural area is densly populated, which causes our surface waters from lakes, rivers and creeks to be unable to maintain a coliform concentration below the 5,000 MPN/100 ml. requirement by the Board. Thus, this is an idealized parameter which cannot be complied with.

It should be observed that the proposed regulations are, in many cases, exact copies, word for word, from the publication "Water Quality Criteria" prepared by the Federal Water Pollution Control Administration. Obviously, we must realize that the regulations hereby proposed by the Board are directed to the condition of the U.S. mainland with absolutely no consideration of the situation of Puerto Rico.

I wish also to comment on our economical aspect. We pretend to use the same regulations as the United States. All these projects that will be required to comply with the regulations would result in an excessive drain on public funds. We know that Puerto Rico is poorer than any of the 50 States. To pretend to compete with them in economical terms for the over-protection

of the environment is unrealistic. This excessive cost will be very hard for our Northern citizens. It is even harder for our Government which does not have the economical resources that they have. Furthermore, any construction project in Puerto Rico is more costly than in any of the states, including New York and California. It is my understanding that it is illogical for the EPA to require the same standards in both the U.S. mainland and Puerto Rico, where we have the great disadvantage of lack of public funds, without considering the advantage given to us by Mother Nature, our location in the Caribbean and the Puerto Rico trench.

EPA has indicated that the waters between Puerto Rico and the East Coast of the United States are interstate waters, and both countries are united by the Atlantic Ocean. The interstate waters in the U.S. are those in which rivers from one state to another downstream. To use the same definition, as it has been doing because of the separation of both countries by the Atlantic, is in my opinion out of reason. There is not the slightest possibility that treated domestic and industrial wastewaters, could reach and contaminate the coasts of the U.S. or Venezuela, or even our closest neighbors in the Caribbean.

It is correct that the new law approved recently by the U.S. Congress provides Federal funds up to 75% for the construction of wastewater treatment plants. But the amount of public funds that would be required in terms of dollars, not in terms of percentage, will be much higher if they require the excessive treatment, plus operation and maintenance costs. At the present time the income for sewer services collected by Acueductos are not enough even for their operation and maintenance costs of the sewer facilities.

Acueductos is at present the No. 1 client of Fuentes Fluviales. The ultra-modern wastewater treatment plants would necessitate a higher demand for electrical energy. Let us evaluate this point: at the present time Fuentes Fluviales cannot provide the electrical energy that the new plants for Acueductos would require to comply with the regulations. In fact, with this requirement for additional treatment we will have to generate additional electric power which will result in increased air pollution of the environment, which in fact is also a responsibility of the Board.

We should not forget that the water pollution control program is a public health program. Unfortunately, our public health programs, in their phase of preventive medicine, are hampered most of the time by limited funds, as it is the public policy of the Government to emphasize curative medicine, providing nearly all of the public funds in that direction. A clear example of this is the control of schistosomiasis, or bilharzia, an endemic disease affecting 13% of our population. A $7 million program could completely eradicate this disease, but in no year has it been possible for the Government to provide the necessary funds for its control, and consequently the disease still persists, even considering that we have the necessary technology for its eradication. To require additional public funds to reach idealized ends in a water pollution control program will affect other public health programs, equally important, which lack sufficient funds.

The Governor of Puerto Rico, the Honrable Rafael Hernández Colón, has emphasized to the people the difficult economical situation of the government

at the present time, and has recommended an "austerity" program. It seems to me that the program that is required to comply to the proposed regulations for water pollution control by the Board are far from austere economically. Even more, this program will require the use of new, complex and costly equipment that must be imported, this resulting in an additional and unnecessary outgo of our limited economical resources. On occasion it has been indicated in the U.S. that to require over-treatment for water pollution control is another contributor to inflation, which we all hate. In fact, President Nixon did not signed the "Water Bill" because it will increase inflation. May I borrow President Nixon's words in his Veto Message to Congress (Act S-2770)?

> "I am also concerned, however, that we attack pollution in a way that does not ignore other very real threats on the quality of life, such as spiraling costs and increased onerous taxes. Legislation which would continue our efforts to raise water quality, but which would do so through extreme and needless overspending, does not serve the public interest. There is a better way to get the job done."

These words can also be applied to the Puerto Rican reality in the implementation of the proposed regulations.

We should also consider that President Nixon has cut much of the funds for public health programs, as well as others at the end of the Vietnam War, also as an austerity measure. Although the Federal government could provide 75% of the bill for the new plants, we should have in mind that these funds could be cut at any moment, as President Nixon has already implied. If this happened, the Commonwealth government would have to pay the complete bill to comply with its own regulations.

Acueductos, through PRASA Regulation No. 47A, has proposed some standards for water quality which to me look logical, not exaggerated and which require adequate treatment for the protection of our natural resources, without reaching the over-or super-treatment that requires the extravagant use of public funds. This regulation could be used, or ammended, for our special situation. In fact, these were prepared with our specific case in mind rather than in senseless imitation of the laws of the Northern states.

What are the objectives of the proposed regulation? It is the protection of the environment, in which I, and all those present at these hearings, as well as members of the Board have a great interest. We could reach this objective without imposing restrictive standards that cannot be met. What is the purpose of requiring these very restrictive standards? We should be conscious that we should permit the use, not the abuse of our natural resources, but with a logical and reasonable base that will permit us to comply with them and at the same time protect our environment. I do not think that it is the Board's intention to have standards that we all know cannot be met either by the government or by industry.

Industry is a different case. As a general rule, industry has more economical resources than the government and can provide the necessary treatment. But, why should we request over-treatment by industry? There are industries, many of them natives, which would be forced to close; the requirements for water pollution control as defined in the proposed standards would result in such high additional costs that they could not be met. In fact, if

it is costly to the government, it would be an unsupportable economic burden for small industry with marginal profits. We must consider that the industry that has been established in Puerto Rico under Operation Bootstrap has been making a contribution to our economy, at the invitation of our government. Although many of these industries can provide the required treatment, we should not request from them an idealistic over-treatment for the over-protection of our environment.

For the coastal cities and municipalities I consider primary treatment with submarine discharge as satisfactory for our economic realities and the location of Puerto Rico in the Caribbean. By the same token, I consider the requirement of secondary, terciary and advanced treatment as an unnecessary use of public funds for these municipalities.

I consider secondary treatment as adequate for our inland communities. Moreover, I consider it an unnecessary use of funds to require terciary treatment for rural Puerto Rico.

I consider that we should request industry to adequately pretreat, or treat its wastewaters for the protection of our natural resources. But I also consider it unnecessary to require industry to treat wastes beyond what is necessary.

May I respectfully suggest that the Board revise the proposed regulations not in accordance with the realities of the United States, but with the realities of Puerto Rico, both as to the available public funds as well as to our geographical location.

As a citizen interested in the protection of our environment, having dedicated 25 years of my professional life to the solution of these problems, I

offer my time to the Board for the revision of these regulations, should the members of the Board think that I could be of help. I offer, as well the cooperation of the Department of Environmental Health of the Medical Science Campus of the University of Puerto Rico, of which Faculty I am part-time professor.

I highly appreciate the opportunity given to me by the Board to present my points of view in this matter.

RMG/mns
March, 1973

(809) 723-6084
723-6085

RAMON M. GUZMAN & ASSOCIATES

Consulting Sanitary Engineers

MONSERRATE 560 · SANTURCE, PUERTO RICO 00919 · P. O. BOX 1401 · HATO REY, PUERTO RICO 00919

March 12, 1973

Mr. W.D. Krasnow
Digital Equipment Corporation
Maynard, Mass. 01754

Dear Bill:

The Effuent Standard Committee of which I was recently appointed a member has under consideration the Justification of Effluent Guide-Guidance for the Metal Finishing Industry. We are going to meet shortly in Washington to discuss the effluent guidelines proposed by the consulting firm to EPA.

Knowing of your experience interest and knowledge in this field, as well as other of your associates in Digital, may I ask for your comments in this respect.

I have obtained permission from EPA to get opinions from industry in this respect.

Your cooperation is appreciated.

Sincerely,

Ramon M. Guzman

cc: w/o encl. Mr. Hanson
Mr. Wood

11/4/71

PUERTO RICO DIRECTORY

Ramon M. Guzman & Assoc.
Consulting Sanitary Engineers
P.O. Box 1401 789-5827
Hato Rey, P.R. 722-5948

Julio C. Vazquez - Director (Travel & Telephone Problems)
Department of Industrial Services
Economic Development Administration
G.P.O. Box 2350
San Juan, Puerto Rico 00936

Contractor -
Vanguard
369 Lexington Ave.,
New York, New York

Angel J. Colon
Director Master Planning Dept.
PRIDCO

Jorge Rivera Valentin & Assoc.
Sanitary Engineers

Sadi Antongiorgi 892-1732
General Contractor - Pridco
Box 528
San German, Puerto Rico

Victor Garcia 764-6565
Consulting Engineer
504 Munoz Rivera, Hato Rey, P.R. 00918
(Engineering concern working w/CDM on waste treatment permits)

Building Code # T-778-66 Lot 44
CC-492 T-881-67 Juncos Industrial Park Lot 88

Commonwealth of Puerto Rico
Economic Development Administration
G. P. O. Box 2350
San Juan, Puerto Rico

Reinaldo Reyes
Industrial Engineer Telephone No. 767-4747

M. Sanchez Rivera
President and General Manager

Esteban Davila
Director - Department of Industrial Promotion

RCA de Puerto Rico Inc.
Juncos, Puerto Rico

Fred A. Daud
General Manager

Mayo W. Bechtel
Manager - Personnel Planning and Controls

Emilio Puigdollers, Jr.
Manager, Engineering

Department of Industrial Promotion
Economic Development Administration
Commonwealth of Puerto Rico
666 Fifth Avenue
New York, New York 10019

Ramon Acevedo
Director Circle 5-1200

Mayaguez Hilton Hotel
Mayaguez, Puerto Rico 832-7575

James Guzman
Manager

Daniel J. Albino
Executive Assistant Manager

Circuits Incorporated
Juncos, Puerto Rico

Ralph Escivano
General Manager

Contemporary Electronics
4838 West 35th Street
Mineapolis, Minnesota 55416

Russ W. Papenhausen 920-6444

Contemporary Electronics of P.R. Inc.
P. O. Box 500
Juncos, Puerto Rico 00666

Gilbert Hernandez 734-6191

ITT Caribbean Manufacturing Inc.
P. O. Box 4008
San Jose Station
Rio Piedras, Puerto Rico

Harry Jock
Manager
Industrial Engineering

General Electric Industrial Controls
Veja Alto, Puerto Rico

James McClea
President

Hycor Company Inc.
Box 398
Vega Baja, Puerto

Thomas H. DeGracia
General Manager

Stat-tran Inc.
P. O. Box 567
Bayamon, Puerto Rico

Wayne L. Ranslem 788-1143
Manager

McConnell Valdes Kelley & Sifre 765-6655
G. P. O. Box 4225
255 Ponce de Leon Avenue
San Juan, Puerto Rico 00936

Donald Hall - Labor Lawyer
Robert S. Griggs

Statham Instruments, Inc. 766-1220
Urbanizacion Industrial Las Tres Monjitas
Hato Rey, Puerto Rico 00919

Glenn H. Sanders
President

Sprague Plastan Company 892-1014
San German, Puerto Rico
Mr. Cunningham V. P.
Carlos J. Medina
Plant Manager

University of Puerto Rico
Mayaguez, Puerto Rico

Hiram H. Puig
Director of Electrical Engineering

Carlos Marazzi
Professor of Electrical Engineering

Banco Popular de Puerto Rico 765-9800
San Juan, Puerto Rico

Hector Ledesma
Second Vice President

Humberto Ramirez
Asst. Head Loan Analysis Division

Arturo Torres Braschi

Commonwealth of Puerto Rico
Economic Development Administration
Continental Operation Branch
McGraw Hill Building
607 Boylston Street
Boston, Massachusetts 02116

Mr. Andres Betances
District Manager

PERSONNEL

The San Juan Star — 782-2986
782-2957
El Mundo — 767-8585

Economic Development Association
San Juan, Puerto Rico

Marie Rodriquez Quetglas
Personnel Placement Liason Officer — 767-4747 Ext. 273

PLANT ENGINEERING

PRIDCO
San Juan, Puerto Rico

Jose A. Nunez
Vice President Development

Mariano Mier
Asst. V. P. Development

PLANT SETUP ASSISTANCE

Economic Development Association
Industrial Services Department
Calle 11 de Agosta #1209 Este
Ensanche Cuevas
Mayaguez, Puerto Rico

Miguel Juan — 832-0462
Regional Director

Contracts: Louis Gomez
Assistant to Vice President Finance
PRIDCO

ACUEDUCTOS — only responsible for distribution piping

San Germán - Cheng Mr. OJEDA

Mayaguez - Cheng Mr. SUAREZ

San Juan - Cheng Victor Luis Lopez
Jefe, Services Tecnicos
de Ingenieria
Aut. de Acueductos
603, Barbosa Ave
Hato Rey, P.R.

Lord Electric Co., Inc.
10 Rockefeller Plaza
New York

Richard Covino 1-212-246-8000

Lord Electric Co. of Puerto Rico, Inc. 767-4040
Simon Madera Ave., Villa Prades
G.P.O. Box 3408
San Juan, P.R. 00936

Ruben Velez Lebron (President)

Commonwealth of Puerto Rico 891-0704
Economic Development Administration
Department of Industrial Services
Box 746 Aguadilla, Puerto Rico

Orlando Rosa Artau (Regional Representative)

Miquel Juan (Mike), Chief of Operations 832-0462
Wester Area 832-4512
Economic Development Adm.
#209 East-Once deHgosto St.
Mayaquez

Commonwealth of Puerto Rico 832-0462
Economic Development Administration
Department of Industrial Services
11 De Agosto 209 E
Mayaguez, Puerto Rico

Hugo Guzman Garcia
(Regional Representative)

Sam P. Wallace
Pete Gonzalez
Off: 767-6910
Res. 761-6162
Al. Rod. Home 766-4844