

San Martin Water Project Overview:

To Loveland club and Manantiales club grants committees,

The short description of our drinking water project at Municipio San Martin Zapotitlan Salinas near Tehuacan, Mexico is further detailed herein. First of all, this project has been in the investigation and planning stages for several years by our Tehuacan Rotary brothers. The Tehuacan manantiales club has worked with this remote community to engage them in hydroponic gardening and other methods to improve farming skills and also in animal husbandry so they can improve their lives.

Loveland Rotarians Gary Camp (president 2013/2014), Michael Robeson (Professional Engineer), PP John Turnage (minister) and Ron Hogan (retired PE&LS) traveled to Tehuacan and inspected the project site to meet and talk to the residents in order to evaluate where we might offer effective help. Water is the first need that is on everyone's mind. The farms consist of hand and animal tilled small plots of one hectare (a little more than 2 acres). Typical yearly rainfall is about 8" (Note I later found a government study showing annual rainfall to be 400mm – about 15"). Typical crops are primarily maize and a few beans. The towns people are actively experimenting with growing vegetables in a small hydroponic greenhouse (see photos). Present drinking water supply is about 1/2 of what is considered normal for an arid area so any water used by the hydroponics is very limited.

There are several natural springs in the nearby hills and we had a local laboratory analyze the water from those springs for suitability. Three of the tests are shown. Water from two of the springs could possibly be used in the hydroponic operations but only one (the one with the green bars at the top) is suitable for drinking. It was the decision to investigate the cost of improving the output of that existing spring and improving the 1.82 mile supply line. Our partners obtained bids for that work and the overall cost was more than could be handled on a district grant. Our request for the \$4,000 grant was for the first phase to increase the capacity of the spring this year and to request a larger global grant next year.

Our partners have continued to investigate alternatives and we are revising the program to first improve another source we will call AQUA EL CONEJO. It is a better plan because we can make the improvements to AQUA EL CONEJO and have it completely operational before disturbing the existing water source at PALO VERDE. The following is the new proposed schedule I presented to our partners last week and they wholeheartedly have endorsed the new plan.

Funds are not available to accomplish all of the work this year. Our Rotary District 5440 has limited funds and all of the Rotary Global Project money has already been assigned. Proposed funding for this San Martin water project this Rotary year July 2014 to July 2015 is:

District grant of \$4,000

Matching grant Loveland club \$4,000

We anticipate that the \$4,000 district grant will be approved July 1, 2014. Loveland president Gary Camp has also indicated that there is a possibility of some additional support from other clubs and now that we have more information for planning he can contact those clubs and see how much more might be available this year.

Our Rotary District 5440 has already committed all available DDF (District Designated Funds) for this year. DDF can be used for global grants and DDF is matched by Rotary International at 100%. Club funds are matched at 50%. Our District 5440 had a maximum DDF grant contribution this year of \$12,000.

It is apparent that the project will have to be accomplished in phases as funds become available. Your group and the contractor will know best how to schedule the phases. I have attached your work Resume sheet and suggested 4 of the items (marked with a red dot) and also shown at the bottom of the Resume sheet. The conversion from Mex Pesos to US Dollars is 13.00 Pesos to the US Dollar and the sum of those 4 items is \$10,031. Total from the Resume for agua el conejo is \$29,181. With the suggested 4 items (\$10,031) subtracted leaves \$19,150. The email from Martin of May 8 shows the cost of the Palo Verde well and delivery pipe maintenance to be \$10,000 so adding \$19,150 is \$29,150 and that works out well for next year. The minimum size for a Global Grant is \$30,000.

It is very important to plan now for next year's Global Grant so the preliminary request is ready to file with our district grants committee! The information that you have furnished will be impressive and as soon as you decide on what is in this first phase and what will be in the second phase I will start preparing the preliminary request.

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This is how the funding might look for a minimum \$30,000 Global Grant: Of course it could be larger but the percentage match would be typical.

DDF from district	\$12,000
Rotary match 100%	\$12,000
From Manantiales club	\$ 1,000
RI match 50%	\$ 500
From Loveland club.	\$ 3,000
RI match 50%	\$ 1,500
Total	\$30,000

Thanks for all of your hard work!



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"Análisis que rinden frutos"



ANÁLISIS DE AGUA	
Información General	
No. de Registro: AG-4997	Municipio: Zapotlán Salinas
Fecha Recepción: 07012014	Estado: Puebla
Fecha Entrega: 09012014	Ubicación OPS: Lat. Long.
Cliente: Biotecnología y Más AC	Tipo Agua: En Suelo
Finca: Col. San Martín, Faja Verde Histórico	

Características Generales de Salinidad/Sodicidad										
Determinación	Abrev.	Unidades	Resultados	Muy Bajo	Bajo	Mod. Bajo	Mediano	Mod. Alto	Alto	Muy Alto
Cond. Eléctrica	CE	dSm	6.83	[Bar chart showing high salinity]						
pH	pH	-	7.40	[Bar chart showing neutral pH]						
Rel. Ads. Sodio	RAS	-	1.32	[Bar chart showing high sodicity]						

Cationes										
Determinación	Abrev.	Unidades	Resultados	Muy Bajo	Bajo	Mod. Bajo	Mediano	Mod. Alto	Alto	Muy Alto
Calcio	Ca	mg/L	64.3	[Bar chart showing low calcium]						
Magnesio	Mg	mg/L	26.9	[Bar chart showing low magnesium]						
Sodio	Na	mg/L	70.2	[Bar chart showing high sodium]						
Potasio	K	mg/L	5.99	[Bar chart showing low potassium]						
Suma de Cationes	-	-	164	[Bar chart showing high cation sum]						

Aniones										
Determinación	Abrev.	Unidades	Resultados	Muy Bajo	Bajo	Mod. Bajo	Mediano	Mod. Alto	Alto	Muy Alto
Sulfato	SO4	mg/L	47.6	[Bar chart showing low sulfate]						
Bicarbonatos	HCO3	mg/L	386	[Bar chart showing high bicarbonates]						
Cloruro	Cl	mg/L	62.6	[Bar chart showing high chloride]						
Carbonatos	CO3	mg/L	0	[Bar chart showing zero carbonates]						
Nitritos	NO2	mg/L	1.4	[Bar chart showing low nitrites]						
Suma de Aniones	-	-	534	[Bar chart showing high anion sum]						

Otros Parámetros de Salinidad/Sodicidad										
Determinación	Abrev.	Unidades	Resultados	Muy Bajo	Bajo	Mod. Bajo	Mediano	Mod. Alto	Alto	Muy Alto
Salinidad Eléctrica	SE	meq/L	3.30	[Bar chart showing high salinity]						
% de Sodio Posible	PSp	%	95.2	[Bar chart showing high sodium percentage]						
Carb. Sodio Res.	C.S.R.	%	0.37	[Bar chart showing low sodium carbonate]						
Rel. Ads. Sodio(A)	RAS(A)	-	2.49	[Bar chart showing high sodium adsorption]						

Determinaciones Especiales										
Determinación	Abrev.	Unidades	Resultados	Muy Bajo	Bajo	Mod. Bajo	Mediano	Mod. Alto	Alto	Muy Alto
Boro	B	ppm	0.08	[Bar chart showing low boron]						
Hierro	Fe	ppm	ND	[Bar chart showing no iron]						
Manganeso	Mn	ppm	ND	[Bar chart showing no manganese]						

Comentarios

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Centro de Análisis María Eugenia Rojas Ochoa



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ANÁLISIS DE AGUA	
Información General	
No. de Registro: AG-4998	Municipio: Zapotlán Salinas
Fecha Recepción: 07012014	Estado: Puebla
Fecha Entrega: 09012014	Ubicación OPS: Lat. Long.
Cliente: Biotecnología y Más AC	Tipo Agua: En Suelo
Finca: Col. San Martín, San Miguel	

Características Generales de Salinidad/Sodicidad										
Determinación	Abrev.	Unidades	Resultados	Muy Bajo	Bajo	Mod. Bajo	Mediano	Mod. Alto	Alto	Muy Alto
Cond. Eléctrica	CE	dSm	1.41	[Bar chart showing low salinity]						
pH	pH	-	8.00	[Bar chart showing high pH]						
Rel. Ads. Sodio	RAS	-	4.91	[Bar chart showing high sodicity]						

Cationes										
Determinación	Abrev.	Unidades	Resultados	Muy Bajo	Bajo	Mod. Bajo	Mediano	Mod. Alto	Alto	Muy Alto
Calcio	Ca	mg/L	39.2	[Bar chart showing low calcium]						
Magnesio	Mg	mg/L	55.8	[Bar chart showing low magnesium]						
Sodio	Na	mg/L	175	[Bar chart showing high sodium]						
Potasio	K	mg/L	3.05	[Bar chart showing low potassium]						
Suma de Cationes	-	-	143.6	[Bar chart showing high cation sum]						

Aniones										
Determinación	Abrev.	Unidades	Resultados	Muy Bajo	Bajo	Mod. Bajo	Mediano	Mod. Alto	Alto	Muy Alto
Sulfato	SO4	mg/L	276	[Bar chart showing high sulfate]						
Bicarbonatos	HCO3	mg/L	390	[Bar chart showing high bicarbonates]						
Cloruro	Cl	mg/L	46.2	[Bar chart showing high chloride]						
Carbonatos	CO3	mg/L	15.0	[Bar chart showing low carbonates]						
Nitritos	NO2	mg/L	1.0	[Bar chart showing low nitrites]						
Suma de Aniones	-	-	143.7	[Bar chart showing high anion sum]						

Otros Parámetros de Salinidad/Sodicidad										
Determinación	Abrev.	Unidades	Resultados	Muy Bajo	Bajo	Mod. Bajo	Mediano	Mod. Alto	Alto	Muy Alto
Salinidad Eléctrica	SE	meq/L	7.81	[Bar chart showing high salinity]						
% de Sodio Posible	PSp	%	99.0	[Bar chart showing high sodium percentage]						
Carb. Sodio Res.	C.S.R.	%	0.46	[Bar chart showing low sodium carbonate]						
Rel. Ads. Sodio(A)	RAS(A)	-	4.67	[Bar chart showing high sodium adsorption]						

Determinaciones Especiales										
Determinación	Abrev.	Unidades	Resultados	Muy Bajo	Bajo	Mod. Bajo	Mediano	Mod. Alto	Alto	Muy Alto
Boro	B	ppm	0.31	[Bar chart showing low boron]						
Hierro	Fe	ppm	ND	[Bar chart showing no iron]						
Manganeso	Mn	ppm	ND	[Bar chart showing no manganese]						

Comentarios

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