



Prospectus: Moving Communities to Sustainable Health in Nicaragua

A Humanitarian Investment Opportunity with outstanding potential to improve health, life-expectancy, student learning, gender equality, and many other key issues of development in the second poorest country in the Western Hemisphere.

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Peace and Hope Frontier Mission, Inc.

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“Peace and Hope Frontier Mission is entering into its most challenging stage of pioneering humanitarian ministry in its 15 year history of caring for isolated and forgotten people groups. We are going to some of the most remote and isolated communities in the Western Hemisphere to collaborate with them to supply sustainable clean drinking water and provide vital sanitation and hygiene education. This will push our limits as we overcome logistical, security and natural barriers to this life-saving initiative and ultimately encourage and equip communities to measurably improve their quality of life.”

-Peter Coleman

PHFM Executive Director, June 2015

“Global access to safe water, adequate sanitation, and proper hygiene education can reduce illness and death from disease, leading to improved health, poverty reduction, and socio-economic development. However, many countries are challenged to provide these basic necessities to their populations, leaving people at risk for water, sanitation, and hygiene (WASH)-related diseases.”

-US Centers for Disease Control and Prevention (CDC), 2015

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Executive Summary

“Water, water, everywhere, nor any drop to drink.” The plight of the Ancient Mariner and his shipmates in Coleridge’s *Rime of the Ancient Mariner* is the same plight faced by the desperately poor inhabitants of the remote river villages in the Miskito Coast region of Nicaragua. They live in the wet lowland basins of Nicaragua but there is no clean, safe water to drink. The staff and volunteers of Peace and Hope Frontier Mission, Inc. (PHFM) have been working side by side on Nicaragua’s disenfranchised and isolated Miskito Coast with people living in the communities along the Rio Grande de Matagalpa since 1998, helping to improve the lives of these men, women and children through sustainable resource development, disaster relief, medical intervention and educational aid. Seventeen years of field experience, anecdotal evidence, community surveys and government research data have led us to conclude that the number one need of these people is clean water. Having reached this conclusion, we have retooled as an organization both philosophically and practically, and are taking the action steps necessary to turn this conviction into a beneficent regional reality. We are asking for your financial support to help us in this effort.

Mission

Peace and Hope Frontier Mission, Inc. exists to provide sustainable resource development and humanitarian aid to villages in the most remote regions of Central America, in active obedience to Jesus’ call to love and serve the poor. We do this intentionally by working to eradicate waterborne illness through drilling deep water wells and providing education in health and hygiene, and responsively by partnering with communities to address other needs as they arise.

Drilling Deeper into the Need and the Opportunity

The Compelling Need for Service in the Target Area

Peace and Hope Frontier Mission has conducted two years of quantitative and qualitative research to identify the compelling need for clean drinking water in the Southern Atlantic Autonomous Region (RAAS) of Nicaragua with a particular focus on the La Cruz de Rio Grande and Desembocadura de Rio Grande municipalities. Information gleaned from sources ranging from first-hand community level surveys to national statistical data provided by the Nicaraguan Ministry of Health gives a clear indication that waterborne illness is the number one cause of disease and illness in the target area. Furthermore, the reported incidence of waterborne illness at community clinics and health centers has increased by nearly 35% in the target area between 2012 and 2013. Hurricanes, flooding and drought may have an influence on this fluctuation. However, our interviews

with community leaders and health officials indicate an increase of epidemic proportion in waterborne illness in the region.

Scope and Significance of the Problem

There are several factors that contribute to the magnitude of the problem. Most of the communities in the target area are remote; far removed from major population centers, lacking in infrastructure of any kind and accessible exclusively by water. Due to budgetary constraints and logistical challenges the Nicaraguan Government has neither provided access to potable water nor provided adequate sanitation and hygiene education. The result is that a population of approximately 12,000 rural inhabitants spread between 13 small communities, have access to only two municipal wells that are separated by roughly 60 miles.

The significance of this is that because of the gravely inadequate access to potable water in all 13 communities and widespread ignorance regarding acceptable sanitation and hygiene standards and practices, the incidence of water related illness is extremely high. In 2013, the Nicaraguan Ministry of Health documented 11,987 visits to health centers in the target area of 12,000 inhabitants for treatment of illnesses related to the consumption of unclean water including the following: 1) Protozoal infections such as Giardia and amoeba; 2) Bacterial infections such as E. coli, Leptospirosis, and Typhoid Fever; 3) Viral infections such as SARS and Hepatitis A; 4) Parasitic infections.

The most common symptoms and conditions presenting in the target area's rural communities include: diarrhea, vomiting, fever, fatigue, compromised immune system, rash, asthma, bloody urine, liver and spleen failure, and meningitis. Many of these symptoms when untreated, as they usually are in this region, can lead to severe medical trauma and death.

Education regarding the value of clean drinking water and the importance of appropriate hygiene and sanitation practices has neither been prioritized nor adequate education provided for the communities of this region. As a result, the communities have not yet developed a culture that recognizes the cause and effect relationship between unclean water, poor hygiene and sanitation measures and illness. In October of 2014, PHFM conducted an exhaustive survey among the inhabitants of four of the communities in our operational area. The data provided by that survey indicates a range of from 0 - 30% of respondents in the different villages cited lack of water or potable water as a primary community problem. Sanitation did not even merit a mention. Health issues also received 0 - 30% response as a primary community concern. When asked specifically what problems arose from lack of water, health or health related responses scored a more consistent but still low, 20 - 30%. This, in light of the data cited above from the Ministry of Health that indicates the incidence of treatment for water related illness per capita to be over 99% in the region, would suggest a disconnect between perception and reality.

Our Target Area

Peace and Hope Frontier Mission is focused on the extremely isolated rural poor. We serve primarily in small communities with fewer than 500 inhabitants that have little or no access to clean water,

education or medical services. Infrastructure, including roads, bridges, wharfs and electricity is largely nonexistent. The isolation these communities face cannot be understated. The communities in our target area are accessible only by water, further contributing to the isolation of the population and posing a barrier to education efforts and government funded clean water initiatives. PHFM is committed to all members of each community, irrespective of gender, age, economic status, ethnicity or religious beliefs.

Geographic Range

The specific target area is 5,187 square kilometers and consists of two municipalities in the RAAS of Nicaragua, namely La Cruz de Rio Grande and Desembocadura de Rio Grande. The average population density is roughly 3.5 hab/sq.km. The actual geographical area is located around the following coordinates: 13°07'00"N 84°11'00"W and 12°55'55"N 83°34'37"W. The target area elevation above sea level ranges from 0 to 51 feet and suffers catastrophic hurricanes, flooding and drought conditions. All these factors impact the availability, provision and delivery of clean water in the target area.



The Problem Set and Organizational Priorities

Through 15 years of organizational experience and humanitarian activity in the target area, through statistical research and firsthand community surveys, PHFM has identified waterborne illness as the single most important and misperceived health issue in the operational zone. It is a contributing factor to infant and childhood mortality, and has an adverse effect on education, productivity, social structure, food security and acts as a fundamental barrier to eliminating extreme poverty. Our solution is to provide health and hygiene education and drill clean water wells. This has been intentionally designated as the top priority for our organization after working effectively in many humanitarian initiatives and projects over our years in the RAAS. The resounding request from community leaders and inhabitants, including mothers of children, is for access to healthcare due to the need to treat waterborne illness. In the survey cited above, up to 100% of the water supply in

some communities was drawn from the river, creeks, or shallow hand dug open wells – all contaminated sources. In the best case scenarios, some part of the water supply is provided from rainwater catchment tanks. By eliminating the underlying problem of no access to clean water and providing a viable alternative, we can facilitate their transition to sustainable health. Once this most basic of problems is successfully addressed, other community and regional initiatives can be undertaken and built upon this firm foundation.

Evaluating the Benefits

The benefit of providing education and access to clean drinking water is measurable at the micro, mezzo and macro levels. In the wake of providing health, hygiene and sanitation education and clean water through the drilling of deep wells in ultra-poor rural communities we can measure the decrease in the incidence of health center visits for waterborne illness at a municipal and community level. We can further evaluate the impact of our efforts by gathering data on the incidence of the following symptoms at the community, municipal, regional and national levels: diarrhea, vomiting, fever, fatigue, compromised immune system, rash, respiratory problems, bloody urine, liver, kidney and spleen failure, and meningitis.

The Nicaraguan Ministry of Health has excellent baseline information and PHFM has a consistent and active presence in the target area and conducts surveys, monitoring and evaluations several times each year at the community level.

PHFM survey results, data collection and our matrix to measure the benefits of the education and well drilling program will be reconciled with national statistical data and corroborated by municipal and regional health officials. No such evaluation is currently available as this is a newly initiated project.

Background and History of the Organization

Peace and Hope Frontier Mission, Inc. had its origins in a UK based Christian charity called Peace and Hope Trust. In 1995, at the invitation of the Nicaraguan government, a retired RAF officer named Michael Cole led a team of British volunteers on a hovercraft expedition across Nicaragua in an attempt to link isolated communities in the eastern region of Nicaragua with the more developed central and western parts of the country. The following year Mike Cole established Peace and Hope Trust and led the first of many volunteer teams to work among the poor of Nicaragua. Over the years the organization has been involved in medical expeditions, educational initiatives, vocational training, building projects, agricultural development and humanitarian relief.

In 1998, two men from a New England Baptist church volunteered with one of the teams hosted by Peace and Hope Trust, helping with a construction project at a Christian school in the town of Bluefields on the Atlantic Coast and later that year providing aid to inhabitants of the region who were victims of widespread destruction caused by Hurricane Mitch, a disaster of epic proportions destroying 40,000 homes and killing more than 10,000 people in Nicaragua. Both Peter Coleman and Roger Drost were deeply impacted by their exposure to those living in such desperate poverty and determined to return to Nicaragua and live out Christ's mandate to care for "the least of these" (Matthew 25). They continued to participate in relief and development efforts and lead teams of volunteers with Peace and Hope Trust over the next two years.

In June of 2000 these two men along with some others from their home church established a U.S. based charity of the same name to collaborate with the UK organization on the work in Nicaragua. In December of that year the U.S. based Peace and Hope Trust, Inc. (PHT) was granted 501(c)(3) status by the IRS. Peter Coleman served as the organization's first president and field director. Under the auspices of this new entity, Peter and Roger Drost continued to lead teams of volunteers to Nicaragua, working jointly with the British on projects and initiatives in the Atlantic coast town of Bluefields, in remote river villages of the Miskito Coast region and in and around the mountain city of Matagalpa. Some notable collaborative accomplishments of this period were the building of a forward base facility and hurricane shelter in the remote coastal community of La Barra at the mouth of the Rio Grande de Matagalpa complete with solar powered charging station and a massive concrete wharf. Further steps in the renewable energy program initiated in La Barra included the construction of a solar powered home/medical clinic for the community's nurse.

During the next three years, PHT acted as a consultant for the Nicaragua Ministry of Health and Education. PHT built and operated a Vocational Training Facility in Bluefields, focusing on carpentry and sewing. It was in 2001 that PHT began to venture farther upriver on the Rio Grande de Matagalpa, providing aid to the isolated village of Esperanza in the wake of severe flooding and initiating a program of mosquito net distribution that would continue in the river communities right up to the present day.

In 2003, Director Peter Coleman graduated with a Master's Degree in Sustainable International Development from Brandeis University. That year also saw the construction of a headquarters complex in the Nicaraguan capital city of Managua, shared by both the UK and the US organizations and comprised of not only well equipped office space, but a fully furnished kitchen, comfortable dining and living space and sleeping quarters with the ability to accommodate volunteer teams of up to twenty persons. In the Miskito Coast operational area, 2003 saw the inception of medical intervention efforts along the river as PHT began the distribution of much needed medicines and medical supplies and to sponsor trips by medical and dental personnel to these frontier villages.

PHT (US) established a full time presence in Nicaragua in 2004 when Director Peter Coleman took up year round residence in Managua.

Being firmly established in the country, the UK and US organizations continued to work closely together, hosting volunteer teams from the UK and from many different areas of the USA. From

2004 through 2010 these teams worked in several different locales, battling the effects of almost universal poverty on many different fronts and with a variety of initiatives. Along the river, PHT continued to push deeper and deeper into the interior every year, addressing health concerns in these remote river communities by the continued sponsoring of medical and dental teams, distribution of mosquito nets and by addressing the lack of potable water by constructing concrete rainwater catchment tanks. Also, during these years, PHT's timely and caring response to community needs in the wake of floods and hurricanes helped to nurture a relationship of trust and cooperation between the villages along the Rio Grande de Matagalpa and the organization. Community schools were supplied with educational materials including books, notebooks, paper, pencils and crayons. Volunteers ran Vacation Bible Schools for the children of the villages and local pastors were provided with Bibles for their congregations and resources to help in sermon preparation and Christian education.

Projects were undertaken to help improve and increase agricultural production, with rice mills being provided and structures built to house them in La Barra and the community of Haulover. Short wave radios were installed in towers built by PHT volunteers in the isolated communities of Company Creek and Makantakita, allowing them to communicate with the outside world, especially in the case of emergency or natural disaster. PHT volunteers worked side by side with residents, and in one community with residents and soldiers from a local outpost, to lay concrete walkways, help with the construction of churches, schools and homes and implement other community development projects. One of the ancillary but important outcomes of these ongoing initiatives was that because the staff and many of the volunteers with PHT (both UK and US) returned to the area year after year, many relationships with indigenous inhabitants throughout the region were formed and sustained. This led to increased trust of the organization by the communities being served, greater openness and communication, with a resultant growth in ability to determine and address needs.

More urban settings presented a different set of circumstances and projects were undertaken accordingly. PHT workers began to work in the dump at Bluefields, among children scavenging for something to eat or wear and competing with packs of starving dogs for every scrap. In 2008 – 2009, in the vicinity of the dump, a bakery was built and equipped with an industrial oven in order to help feed those children and their families and houses were constructed in the same neighborhood.

2008 also saw PHT sponsored volunteers undertake and complete the construction of an orphanage hundreds of miles west of the Miskito Coast region in the mountain city of Matagalpa. Over the next two years, teams continued to spend time at the orphanage, building and equipping a playground and involved in the construction of additional buildings.

Another highlight of these years occurred when Peace and Hope Trust (US) hosted two members of the British Parliament to walk across Nicaragua as a fundraiser and to increase public awareness of the level of poverty in that country. As a result of that 2007 venture, the following year Peter Coleman was invited to England where he and PHT (US) were formally recognized and honored in a ceremony in the House of Commons.

Starting in 2010 and continuing into 2011, PHT (US) intentionally began to narrow the focus of its operations to the isolated frontier villages of the Miskito Coast region which lie in the state of the RAAS. By 2012 PHT (US) had formally established its concentration in this area, particularly in the communities along the Rio Grande de Matagalpa, as its operational paradigm. During that same time period the resources of the UK organization were directed more heavily into other regions and initiatives. By 2012, the visions, goals and methods of the two organizations drifted apart.

Changing the Paradigm

Beginning in 2012 and continuing into 2013, the leadership of PHT began to contemplate and discuss how to take the organization to the next level. The critical concerns were making PHT more sustainable, more efficient and effective, and better able to discern, implement and measure those initiatives that would most greatly impact the communities served. PHT staff, board members, volunteers and donors were all involved in this dialogue. The unofficial slogan adopted by participants in this process was, “Go big or go home.”

In February of 2013, three members of leadership; Peter Coleman, Roger Drost and board member/volunteer Tom Clay convened in Nicaragua for what was termed a “discovery trip.” The trip entailed two major exploratory components. One was to discover the feasibility of attempting to access the upper reaches of the Rio Grande de Matagalpa via an overland approach from the west. The second was to spend a concentrated period of time discussing, investigating, evaluating and reporting on possible areas of future focus for the organization. As part of that fact gathering effort, en route to Nicaragua, Roger and Tom stayed over in Houston, Texas, in order to visit with Living Water International. LWI is a very large Christian non-profit humanitarian aid organization that specializes in drilling clean water wells all over the world. Roger and Tom spent half a day at the LWI headquarters, speaking with staff and being introduced to their work and, importantly, to the equipment they had developed. They were also given the contact information for LWI staff currently deployed in Nicaragua, as the organization had recently initiated operations in the western part of the country.

Two weeks of rugged overland travel, navigating the rapids of the upper river in a motorized dugout canoe, significant time spent investigating and evaluating the needs on the upper reaches of the Rio Grande de Matagalpa, time spent in meetings with LWI staff in Managua, and a visit to well drilling sites and LWI base of operations in Leon culminated in two days of intense deliberation at the Peace and Hope, Trust (US) headquarters in Managua. What emerged from this time was consensus among those leaders present on several topics critical to the future development of the organization.

The following ideas were formulated at that time.

- The name of the organization should be changed in order to avoid confusion with the UK operation, and better reflect our mandate.
- The organization should be formally registered as a non-profit NGO in Nicaragua.
- The staffing model of the organization should be examined and possibly restructured.
- Of the various possibilities under consideration for focused, high impact future initiatives in our target region, drilling of deep clean water wells emerged as that service we could provide that most closely aligned with our capabilities and addressed the most critical need. It became evident that such a long term commitment would be a “game changer” for both the region and the organization.

The catalyst enabling this change in organizational mission was the discovery that portable drilling equipment had been developed, allowing for drilling of wells up to 200 feet in depth, with a rig that was able to be dismantled into component parts and transported by boat and then carried piece by piece into the remote river villages of the RAAS. This was critical because there is absolutely no road access into the great majority of communities of the region.

The next two years were transitional for the organization. Although continuing to bring teams of volunteers to the Rio Grande de Matagalpa and working in the traditional holistic vein, internally the board and staff were committed to implementing the changes necessary to pursue the new vision. During the period of 2013 – 2014 teams undertook the construction of a concrete boat landing and stairway access to the village of Anglo America, constructed a substantial wooden bridge across a ravine just outside Makantaka, built a rice milling facility in Makantakita, constructed concrete rainwater catchment tanks in Bretania, constructed highly efficient eco-friendly “green” stoves in several villages, ran Vacation Bible Schools and a sports camp, distributed mosquito nets, school supplies and bibles, and continued an extremely popular family photograph initiative. In the process contact was established with another community farther upriver named Kansas City.

While the organization was hosting volunteer teams and implementing ambitious community projects, the organization was undergoing considerable positive change. In 2013 Peace and Hope Trust, Inc. legally changed its name to Peace and Hope Frontier Mission, Inc. This name change was a result of much internal dialogue and represented a compromise intended to allow for greater clarity and representation of mandate while preserving a connection to the historical roots of the organization.

In 2014, Peace and Hope Frontier Mission, Inc. completed the process of formally registering as an international NGO in Nicaragua.

In 2014, Peter Coleman was named Executive Director of PHFM and Roger Drost was named Communications and Education Coordinator. These titles were engendered in order to better clarify the staffing model and responsibilities.

In 2015, Peace and Hope Frontier Mission acquired the specialized well drilling equipment necessary to implement its mandate and commenced full-scale humanitarian deep water well drilling operations in the RAAS. The first two wells were drilled in the remote river community of Kansas City, on the Rio Grande de Matagalpa.

Partnerships and Affiliations

Peace and Hope Frontier Mission has developed a number of important affiliations and strategic partnerships with different entities:

Rivers of the World: Rivers of the World (ROW) is a large, international Christian non-profit organization based in Atlanta, GA. ROW has the stated mission of going into remote areas of the world to help anchor healthy, sustainable communities of faith. In late 2013 a dialogue began between the leadership of ROW and PHFM regarding a possible collaboration in the RAAS. ROW expressed interest in establishing a presence in several villages along the Rio Grande de Matagalpa – a new operational area for them. With an annual budget in excess of \$2 million, ROW has financial resources far beyond those of PHFM. Peace and Hope on the other hand has long experience in the region, strong relationships with the villages and a solid operational infrastructure in place. It has proven to be a mutually beneficial relationship. Currently the organizations are combining their resources to build a forward operational base camp in the remote village of Kansas City, far up the Rio Grande.

Limon Consulting: Limon Consulting is an integrated business services company offering consulting and training solutions for companies based in Nicaragua. On the basis of several collaborative efforts between Peter Coleman of PHFM and the ownership group of Limon Consulting, a close working relationship has developed between the two organizations. Limon was instrumental in assisting in the process of officially registering PHFM as an NGO with the Nicaraguan government. Currently Limon and PHFM are in the process of developing a fund raising campaign, spearheaded by Limon and targeting high net worth, charitably inclined individuals and corporations in Nicaragua with whom the mission of drilling for clean water in the RAAS would resonate.

North Shore Community Baptist Church: Located in Beverly, MA, NSCBC and Peace and Hope Frontier Mission have a long history of partnering. Peace and Hope has hosted many teams and individuals from NSCBC who have had a desire to serve the poor in the remote villages of Nicaragua's Miskito Coast region. NSCBC has been a generous financial supporter of Peace and Hope since 2000.

Dale Carnegie Training Nicaragua: The Dale Carnegie Training (DCT) franchise in Nicaragua recently opened their headquarters and training conference center on the seventh floor of a spectacular new

office tower in a highly desirable area of Managua. DCT has donated office space and shared use of conference facilities and other common areas of their office suite to PHFM. They have also invited Peter Coleman and the PHFM staff to attend their training program for corporate leadership on a pro bono basis. Both organizations moved into their respective new headquarters in April of 2015.

Operation Blessing International: Operation Blessing International is the Development/Humanitarian arm of the 700 Club. They have provided substantial financial resources to PHFM in the past, supporting such projects as the building and equipping of rice mills in the region and a hurricane shelter in La Barra. They have expressed a high level of interest in the current deep water well drilling activities of PHFM and a willingness to partner in this initiative through continued financial support.

Hard Assets and WASH Achievements

Hard Assets

Peace and Hope Frontier Mission works in an area of the world that poses severe logistical challenges. Most of the communities within our target operational area are not accessible by roads of any kind. In order to operate effectively in the RAAS, PHFM has provided the following assets to fulfill our operational mandate.

LS 200 Drilling Rig: Because most of the communities in PHFM's target area which are in need of clean water are not accessible by road, drilling equipment must meet a specific set of requirements. PHFM has acquired the Lone Star LS 200 hydraulic drill, a rig capable of drilling with power to a depth of 200 feet, yet one which is uniquely designed to be dismantled into component parts which can be transported by boat and then carried by hand and re-assembled for operation in remote locations. All ancillary equipment pertaining to the well drilling operation such as hydraulic, water and mud pumps, pipe, various size and configurations of bits, etc. are also owned by PHFM.

Panga Boats: PHFM owns a 22' panga, custom designed to our specifications, with seating and dry storage for 6 passengers and their gear, powered by a Yamaha 100 hp 4-stroke outboard motor. This boat is specifically designed to be fast and economical, meant to efficiently transport small teams to remote upriver drilling sites. Through our partnership with ROW, PHFM also has access to a larger, heavier panga capable of transporting up to 15 passengers and gear, powered by a 200 hp outboard (ROW has access to the PHFM boat as well).

Toyota Land Cruiser: The recent acquisition of a heavy duty, diesel powered, 4x4 Land Cruiser with a substantial "off road" package including a powerful winch, allows us to transport up to 6 team members and gear and/or equipment vital to the execution of our mission deep into areas of the RAAS in proximity to one end or the other of our targeted operational area, from which we then

transfer to watercraft. These “rendezvous” communities are generally accessible by traversing very rough terrain and dirt roads or tracks that demand the capabilities of such a vehicle.

Forward Base Camp Facilities: Peace and Hope established a forward base camp in the community of La Barra at the mouth of the Rio Grande de Matagalpa, where that river empties into the waters of the Caribbean. Over the course of several years, teams of volunteers constructed a facility that includes a major wharf utilized by the entire community, kitchen, bunkrooms, outhouse and shower facilities, and a large storage building/ hurricane shelter.

In partnership with Rivers of the World, PHFM is currently in the process of building another forward base camp 75 miles upriver in the community of Kansas City which will again consist of a significant multi-staged wharf, bunkhouse, kitchen and outbuilding facilities to accommodate teams from both organizations, and a community medical clinic.

WASH Achievements

All of these organizational assets have been developed by Peace and Hope Frontier Mission with one goal in mind – to execute our mandate with excellence. Our mission is to provide clean water to some of the poorest and most remote villages in the Western Hemisphere under difficult conditions at the best of times. Because we have been actively engaged in this region for many years, we understand how to operate in the target area, how to generate the enthusiastic involvement of community members, and how to accomplish our mission. In late February of 2015, after two years of transition and preparation, a small PHFM team embarked on the organization’s initial endeavor to drill for clean water along the Rio Grande de Matagalpa. Two weeks later the village of Kansas City had two brand new deep water wells in operation, providing that community with clean fresh water for the first time and completing a comprehensive community-wide WASH training program. At the dedication ceremony for the wells, one community leader expressed gratitude for the team’s “great effort” and spoke of the fact that for many years the community had “knocked on doors but nobody would help us” – until now. Dream had become reality for both community and organization!

Organizational Assets and Qualifications

Peace and Hope Frontier Mission, Inc. is uniquely qualified to carry out health and hygiene education and clean water drilling in our target area.

Experience: We have been collaborating with communities in the target operation area since 1998 to deliver humanitarian and community development programs. Our initiatives have included infrastructure, production, and communication projects as well as health and education initiatives. We have developed an organizational model that integrates a staff from both the United States and Nicaragua with the education, specific skill sets and experience to accomplish our objectives with



protocols that provide structure while allowing us flexibility to handle the inevitable unexpected situations that arise in the field. Our staff, several of our board members and a large number of our most faithful supporters who are former volunteers have served in the field over many years and have a deep familiarity with, and concern for, the people of our target communities. Our current mission has been born out of this experience.

Government Registration: Peace and Hope Frontier Mission, Inc. has been a registered 501 c (3) public charity based in the state of Massachusetts since 2000. Our FEIN number is 04-3525541. In 2014 PHFM also registered as a Non-Governmental Organization (NGO) in Nicaragua with the Ministry of Government: 5897 and the Nicaraguan Ministry of Foreign Relations: J0810000223338. The benefits of this in-country registration are manifold, including tax exempt privileges, and designation as an authorized “Supplier” for goods and services with the Ministry of Housing and Public Credit, which means we are authorized to provide humanitarian services for the government. Such registration opens the door for the importing of well drilling equipment and supplies. It also allows for a much higher in-country profile which translates into the ability to fundraise in Nicaragua itself, appealing to that relatively small but financially secure segment of Nicaraguan society. One other important auxiliary benefit to this registration in Nicaragua is that it makes us an attractive organization for other like-minded organizations to partner with, particularly if they are not so registered.

Staff: Peace and Hope Frontier Mission has assembled a staff which is uniquely qualified by education, experience and skill set to accomplish its mission in Nicaragua.

PHFM Executive Director: Peter Coleman. Peter is based in Managua, Nicaragua, and has a Master’s Degree from Brandeis University in Sustainable International Development. Peter’s field experience is deep, working with international organizations, governments and communities in the RAAS and beyond since 1998, and developing strong relationships with community leaders in the target region. He has strong ISO 9001 experience. In the year 2000, Peter founded Peace and Hope Trust, US and has served as Executive Director of PHFM since its inception in 2013. In that role he has oversight responsibility for the entire PHFM operation as well as developing and maintaining relationships with government agencies and other organizations with which PHFM might beneficially partner.

PHFM Communication and Education Coordinator: Roger Drost. Roger is based in the US, residing in North Carolina. Roger began his work with the first US volunteer team for PHT UK in 1998 and has since led a volunteer team every year, helping to facilitate outreach to the most remote villages in Nicaragua’s eastern wilderness. Roger has over 30 years in education, has developed a special focus on community health and education, and supervises the Water, Health, Sanitation and Hygiene component of our program. He is also tasked with the development and implementation of communication and publicity for PHFM.

PHFM Operations Manager: Raul Sing Jackson. Raul has worked with PHFM as a facilitator for many projects and team trips over the years. In 2014 he formally joined PHFM as a part-time staff member and in 2015 accepted a full-time position as operations manager. Raul grew up and

continues to reside in Bluefields, in the RAAS. He is responsible for logistical and operational preparedness and execution for all expeditions into the field including the procurement of equipment and supplies. In the field he acts as a liaison between PHFM and village leaders and arranges for community participation while actively supporting the educational and drilling initiatives.

PHFM Master Driller: Estuardo Torres (Stu). Estuardo is based in Leon, Nicaragua. Stu has over ten years of well drilling experience in Central America with other organizations. He has coordinated over 500 well projects and provided clean drinking water to over 200,000 people. Stu is responsible for overseeing all drilling operations and well installation projects for PHFM and training other members of the core team on the use of drilling equipment.

PHFM Administrator: Tamara Lopez. Tamara is based in Managua, Nicaragua. She has over 12 years of experience as an economist and provides valuable assistance to Peter, developing and implementing many of the administrative protocols for PHFM. She builds and manages projects, helps cultivate and maintain key relationships, has ISO 9001 and SAP experience.

PHFM Boat Operator: Raymundo Federick (Chiquito). Chiquito has been hired many times by PHFM to operate the organization's boat when transporting staff, equipment or volunteer teams up and down the waterways of the RAAS, including the sometimes treacherous waters of Pearl Lagoon and the Rio Grande de Matagalpa. Recently he joined our staff. He is a licensed commercial boat operator with long experience navigating the waters of this region. Chiquito is also a skilled mechanic and accomplished "fixer" – and as such, brings great value to teams in the field.

Peace and Hope Frontier Mission has also established important and valuable working relationships with several professionals in Nicaragua on a retainer basis including an accountant and an attorney in Managua who help us navigate the sometimes complex government regulations and assist us as necessary. In the RAAS, PHFM continues to engage the services of Stanford Bendlis, an experienced builder who has supervised many construction projects for us over the years.

Project Strategy and Future Plans

Peace and Hope Frontier Mission is drilling and installing deep water wells in order to provide clean drinking water to the inhabitants of the communities in our target area as defined above. In addition we provide appropriate education on water, hygiene, sanitation and health in these same communities. The project is predicated upon the following assertions which lead in a logical progression to an inevitable conclusion.

1. Clean water is necessary to the life and well-being of the inhabitants of this region.



2. Clean water is not currently available.
3. Drilling deep water wells is the most efficient, cost effective and sustainable method of clean water delivery to the communities in the target region.
4. The inhabitants of this region are not capable of providing this service for themselves.
5. Nobody else is able or willing to provide this service to this region.
6. PHFM is both willing and able. We have long experience working in the region, established community relationships, equipment and personnel to deliver this life altering service.
7. We believe that in doing so we honor Jesus' call to love and serve the poor of this world. That in serving these poor communities we serve Him.
8. Therefore – we drill, we install, and we educate.

Strategy, Tactics and Costs

The current strategy is to drill and install 36 deep water wells and offer training on water, sanitation, hygiene and health in the 13 communities of our operational area along the Rio Grande de Matagalpa by the end of 2018. The first two wells were drilled and installed in the community of Kansas City in late February/early March of 2015.

The goal is being realized through the deployment of small tactical teams to the operational area with a specific short term mission in a targeted community. The most typical scenario is a five to seven member team comprised of PHFM staff and inclusive of one or two board members, volunteers or donors. All members of a team, regardless of affiliation, are working members and expected to contribute to the success of the venture. Living and working conditions are basic at best. Dependent on the location of the targeted community, teams will either set up camp in the village, stay in the town of La Cruz or eventually lodge in a forward base camp in Kansas City, on which construction began in 2015 as a result of the partnership between PHFM and ROW. Teams remain in the field until the specific goal is accomplished, with the average trip lasting 12 -18 days. While specific goals can and will vary, the most typical goal is the delivery of two wells per trip upriver by the PHFM team. Projected cost per well installation is roughly \$17,199; thus the rough budget for each trip is projected at \$27,171. The total project cost through the end of 2019 is budgeted at \$739,090, accounting for a 3.5% per annum inflation factor. All costs, budgets and business model figures are contained in the "Business Model, Budget and Funding" section beginning on page 20.

Each trip is preceded by an exploratory visit by PHFM staff members to meet with the leaders of the target community in order to discuss the upcoming project, determine preferred well locations, pre-recruit local labor assistance, pre-enroll hygiene class attendees and determine a suitable classroom venue, arrange for locally supplied project materials, and come to agreement on logistical concerns and mission protocols. Community members are encouraged to participate in the well installation process, and in most cases such community support is solicited not only for the resultant sense of resource ownership and responsibility, but is absolutely necessary to the accomplishment of the project due to the work environment and heavy manual labor component of these initiatives. Executive Director Peter Coleman spearheads this pre-trip planning and community mobilization.

Prior to the deployment of the team into the field, project supplies, materials and equipment is procured and shipped by cargo boat to the target community and stored in a pre-arranged location. The responsibility for, and supervision of, this part of the project falls largely to Operations Manager Raul Jackson Sing.

Future Plans

Upon the successful completion of the current strategy by year end 2019, the mission of PHFM to deliver clean water to remote communities in Central America will continue. The efforts of the organization will at that time become more geographically diverse. PHFM is committed to maintaining a presence in the operational area in which we currently focus our efforts. We will continue to monitor and maintain those wells which we have installed, train community members in the maintenance and repair of those wells, and drill and install more wells in those communities that require them. And we will continue to address other community needs as they arise, sometimes in conjunction with strategic partners such as ROW and sometimes independently.

Starting in 2018, the leadership of PHFM will begin to explore and define the next geographical target area of opportunity for our efforts. There are other equally remote and difficult areas in Nicaragua in need of clean water, and certainly other areas in Central America. Our operational paradigm is replicable and the infrastructure we have developed and continue to carefully grow and refine is capable of initiating and sustaining efforts in several different areas of operation, simultaneously. We will expand our efforts as funding and resources allow.

Historically, Peace and Hope Frontier Mission has been a small organization, funded largely by individual donors who are part of a grassroots network of family, friends and volunteers, supplemented by the support of several churches and the occasional gift from a business or organization. More recently the board of PHFM has begun an intentional process of board development and conjointly with that effort has recognized the necessity and committed to the implementation of an expanded fundraising program.

Examples of board development include the addition to the board in recent years of Thomas J. Clay and Norman G. Howarth who currently serve as president and treasurer. Both gentlemen have many years of experience in the financial services field and owned and operated their own businesses. Mr. Howarth has served in leadership roles on the boards of several non-profit organizations in the past. Mr. Clay is in the process of recruiting another new member to the board with extensive professional fundraising and planned giving experience with major nonprofit entities.

Two examples of increased fundraising efforts are the annual “Walk for Wells”, initiated by former board member Ronald (Harry) Aldrich, and the decision by the board to subscribe to a service named “Foundation Search” with board member Mark Coleman heading up grant writing.

Organization Profile, Facts and Governance

Legal Name	501(c)(3)
Peace and Hope Frontier Mission, Inc.	YES, 2000
Address	Latest Form 990 Filing
13 Thoreau Circle	2015
Beverly, MA 01915	Board
Telephone	Thomas Clay, President
612.327.1113	Mark Coleman, Secretary
Ministry Sector	Norm Howarth, Treasurer
WASH – Water, Sanitation and Hygiene	Peter Coleman, Executive Director
Mission Statement	Roger Drost, Community and Education Coordinator
Peace and Hope Frontier Mission, Inc. exists to provide sustainable resource development and humanitarian aid to villages in the most remote regions of Central America, in active obedience to Jesus’ call to love and serve the poor.	Ralph Drinkwater, Trustee
Clients Served	Noah Erikson, Trustee
The extreme poor in remote regions of Nicaragua	Meeting Frequency
Founded	Quarterly; two times annually by phone
2000	Two times annually in person
Incorporated	Board Donors
Originally incorporated as Peace and Hope Trust, Inc. and changed to Peace and Hope Frontier Mission in 2013.	All have contributed within the past 12 months
	Number of paid staff
	4 fulltime and 4 part-time; 7 of 8 are based in Nicaragua

Business Model, Budget & Funding

Funding Requirements & Sources

Business Model and Funding Requirements Part 1

The *Moving Communities to Sustainable Health Initiative* relies on the investment of individuals, foundations and churches enthusiastic about helping remote communities in Nicaragua move from poverty to sustainable health. Currently, the PHFM budget for 2015 is U\$223,440. (see appendix A).

While there is an immediate need for funds to raise capital, there is also an ongoing need to raise funds for each well. The estimated cost per well and to provide the adequate hygiene and sanitation training is U\$17,199. Our goal is to drill two wells per community and maximize an economy of scale to eventually drive our costs down per community to U\$13,585 per well when simultaneously drilling two wells in a community with a total investment of U\$27,171 per community for two wells. (see appendix B and C for details) note: logistical costs may decrease upon completion of the upriver base camp.

Invest in a Well

There are three key ways that investors can partner with PHFM to dig and develop wells in Nicaragua:

Total per well: USD \$17,199.00



Total for two wells: USD \$27,171.00



Invest in our Well Fund

PHFM maintains a special ring-fenced account for incoming support of our well fund. These funds are protected and used to drill wells when the account crosses the balance threshold of U\$17,200. This enables donor to make gifts for the sole purpose of supporting the WASH program.

Business Model and Funding Requirements Part 2

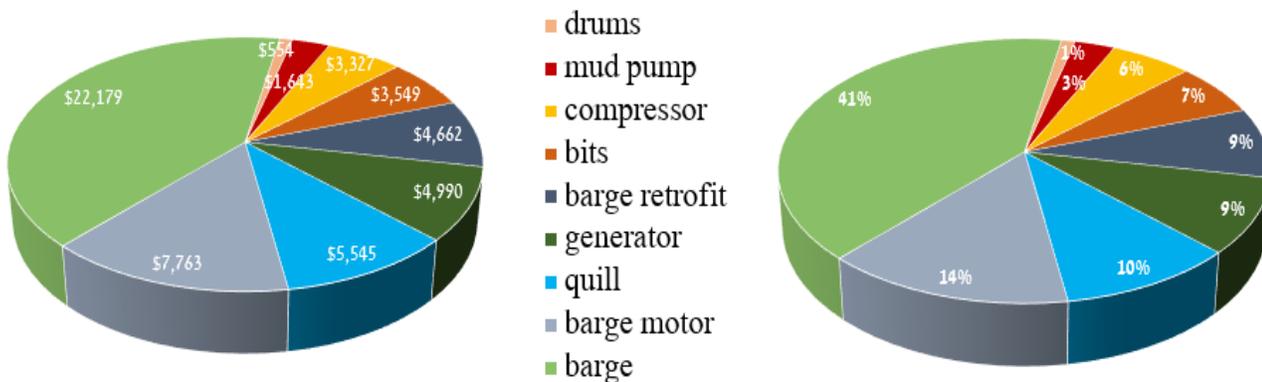
Ongoing investment in the WASH program and well drilling is vital to the sustainability of the project. Additionally, special investment to purchase start-up equipment is necessary for the sustainability and efficiency of the *Sustainable Health Initiative*. The first capital investment has been raised for primary equipment which has been purchased and with that we have proven the viability of the concept and successfully drilled two wells. The primary capital raised by PHFM was approximately U\$58,000. However, additional equipment is required to support the logistics, maintenance, replacement and security of the well drilling operation. Please see Appendix D for the exact itemization and breakdown of the capital investment. The secondary capital investment PHFM is seeking is approximately US\$54,210.

Invest in the Equipment and Machinery

There are 9 key remaining items that require a capital outlay totaling U\$54,210.

Itemized pie chart:

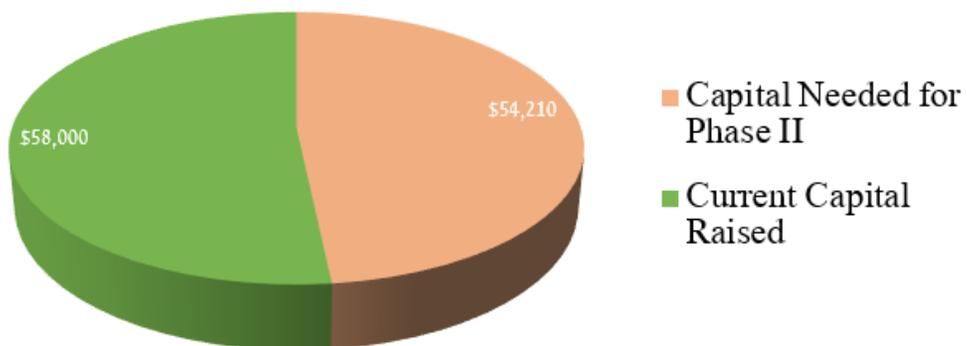
Total Remaining Project Capital: USD \$54,210.00



PHFM has already raised a substantial amount for the purchase of project equipment. That equipment is now in the field and in use. However, more expenditures must be made to reach sustainability:

Current Capital Raised v. Secondary Capital Campaign

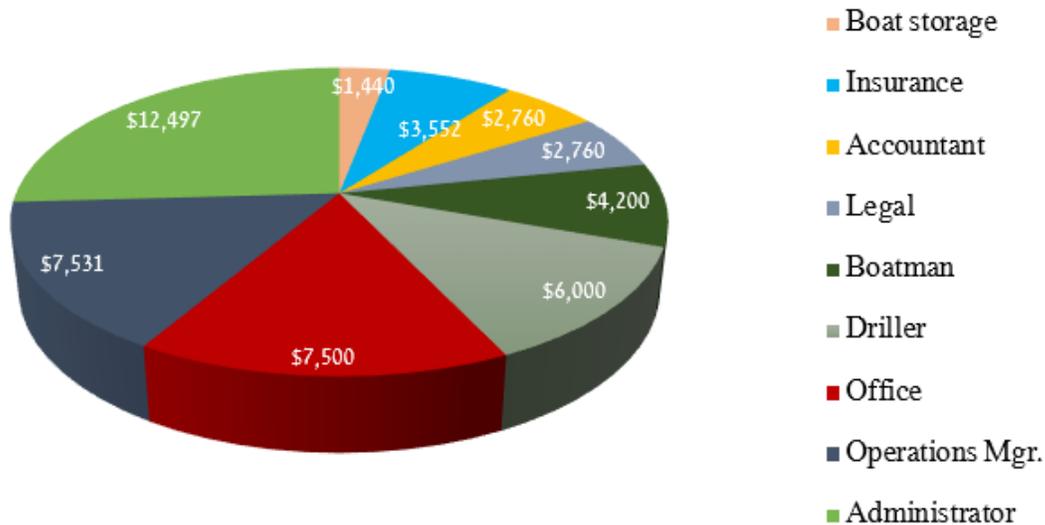
Capital Campaign Update



Business Model and Funding Requirements Part 3

The linchpin of this project is our Nicaraguan staff. These staff and the money invested on their behalf is used exclusively for our well drilling projects. They manage the myriad of complexities that PHFM faces in Nicaragua required to undertake such challenging work in such remote places. The total annual budget for Nicaraguan staff and operations is: U\$48,240. All of these staff are Nicaraguans. An annual wage increase of 3.5 % is factored in the yearly totals below. The Please see appendix E for an itemization of this budget and please see below for the breakdown of staff and Nicaraguan operating costs:

National / Nicaraguan Staff and Operating Cost per annum:
USD \$48,240



Business Model and Funding Requirements Part 4

The total project cost to drill 34 clean water wells over 4 years in our target communities is \$739,090. The total project break-down and annual breakdowns are below:

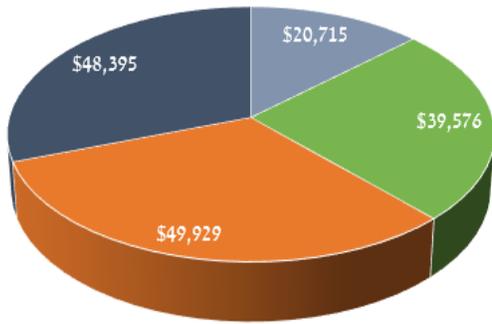
Total Project: USD \$739,090.00



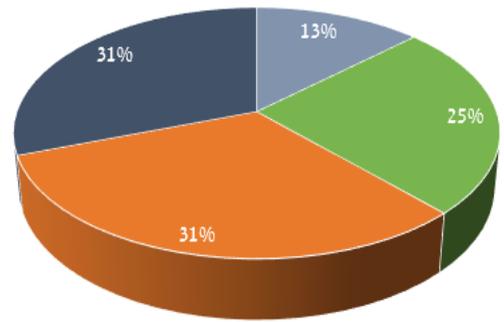
Year 1 - Total Project Cost - 6 Wells: USD \$183,965.00



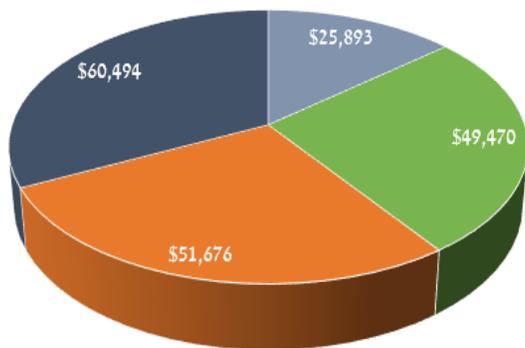
Year 2 - Total Project Cost - 8 Wells: USD \$158,614.00



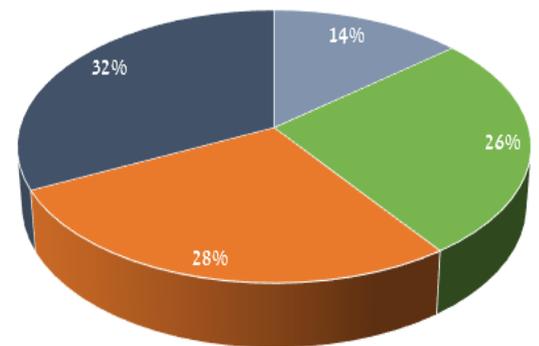
- Caps & Pumps
- Consumables
- Nica Project Staff
- Logistics



Year 3 - Total Project Cost - 10 Wells: USD \$187,533.00



- Caps & Pumps
- Consumables
- Nica Project Staff
- Logistics



Year 4 - Total Project Cost - 10 Wells: USD \$189,342.00



Conclusion

Moving Communities to Sustainable Health in Nicaragua: A Charitable Investment Opportunity

PHFM is actively seeking investors to support the drilling of wells, capital campaign items for equipment to make our drilling sustainable, and for the linchpin of our initiative, our Nicaraguan staff and operating costs. We have proven the model and concept, accumulated the necessary equipment for start-up, and we have secured all of the necessary U.S. and Nicaraguan government registration obligations to undertake this challenging and life-saving ministry.

PHFM seeks persons who will make tax-deductible contributions or foundations or churches to make commitments to be used as described herein. Investors may also wish to advise on the strategy or participate in additional ways, including contributing in-kind services. Some partners will engage actively and repeatedly, while others may support more from a distance. PHFM embraces all such partnerships and recognizes that various investors share different requirements.

In the words of a challenge spoken from the heart of former PHFM Trustee: "How far will you go to bring a cup of clean water to a child?" Please do consider this important opportunity to invest in the lives of those living in dire poverty on the Miskito Coast of Nicaragua.

For more information or to contribute, please contact:

Thomas Clay at president@peaceandhope.org; phone: 978-273-1539

or

Peter Coleman at peterc@peaceandhope.org; phone: 612-327-1113 or in Nicaragua at 011-505-8601-9181

or mail to: Peace and Hope Frontier Mission, Inc
13 Thoreau Circle
Beverly, MA 01915



Peace and Hope Frontier Mission

Estimated Annual Budget, Fiscal Year 2015

Category	Sub-Category	Item	Description	Amount
OPEX	Salary	Administrator	Tamara Lopez, Managua	\$ 12,500.00
OPEX	Salary	Operations	Raul Jackson, Bluefields	\$ 7,530.00
OPEX	Salary	Web/UI/Graphin Des.	Ross Bustamante, website and online support	\$ 660.00
OPEX	Salary	Driller	Estuardo Torres, Managua	\$ 6,000.00
OPEX	Salary	Exec. Dir.	Peter Coleman (gross)	\$ 46,600.00
OPEX	Salary	Comm. & Edu. Coord.	Roger Drost (gross)	\$ 8,400.00
OPEX	Payroll Tax	Staff	FICA	\$ 4,207.50
OPEX	Retainer	Lawyer	Allan Vega, Managua	\$ 2,760.00
OPEX	Residence	legal and mandatory fees	P.C. Nicaragua residence renewal	\$ 900.00
OPEX	Retainer	Account	Daniel Martinez, Managua	\$ 2,760.00
OPEX	Salary	Payroll Administration	Paychex	\$ 1,900.00
OPEX	Utilities	Electricity	Managua Office	\$ 4,080.00
OPEX	Office	Phone	Managua Phone	\$ 1,880.00
OPEX	Office	Internet	Managua Office	\$ 1,680.00
OPEX	Office	Supplies	Managua Office	\$ 1,200.00
OPEX	Office	Software and Platforms	Constant Contact, projmgt.com	\$ 600.00
OPEX	Office	Postage	Newsletters, tax receipts, etc	\$ 700.00
OPEX	Office	Printing and Reproduction	Newsletters, tax receipts, etc	\$ 500.00
OPEX	Office	Computer / IT	Tech support, computer replacement	\$ 2,500.00
OPEX	Benefits	Health Insurance	Peter Coleman	\$ 3,500.00
OPEX	Benefits	Worker's Compensation	Zurich Worker's Comp Insurance	\$ 350.00
OPEX	Auto	Support Vehicle	Fuel Allowance	\$ 1,200.00
OPEX	Auto	Support Vehicle	Maintenance	\$ 1,000.00
OPEX	Boat	PHFM	Storage	\$ 1,585.00
OPEX	Boat	PHFM	Registration and documentation	\$ 300.00
OPEX	Boat	PHFM	Maintenance	\$ 600.00
OPEX	Insurance	D & O Policy	Directors and Officers protection	\$ 2,100.00
OPEX	Fees	Bank	Maintenance, Int'l and Transfer fees	\$ 2,100.00
OPEX	Fees	Bank	Credit Card Int'l usage and fee	\$ 400.00
OPEX	Fees	Commonwealth of MA	AG, MA Sec filing fees	\$ 200.00
OPEX	Meals and Entertainment	Meals with partners	Meetings, Meals	\$ 250.00
OPEX	Business Travel	Airfare	Peter Coleman, Roger Drost	\$ 7,200.00
OPEX	TOTAL			\$ 115,642.50
PROJEX	Projects	well drilling/installation	6 wells per year	\$ 81,000.00
PROJEX	Projects	monitoring and site visits	well drilling prep, etc	\$ 10,800.00
PROJEX	TOTAL			\$ 91,800.00
CAPEX	Support Vehicle	Toyota Land Cruiser	diesel 4x4	\$ 16,000.00
CAPEX	TOTAL			\$ 16,000.00
TOTAL				\$ 223,442.50
<i>OPEX: operating expenditure</i> <i>PROJEX: project expenditure</i> <i>CAPEX: capital expenditure</i>		<i>*note: these are GROSS costs and include taxes, retention, etc.</i>		



Appendix B



PHFM WELL DRILLING COSTS

category: **Caps and Pumps**

parameters: numbers based on 150 feet of drilling
 parameters: no economy of scaled factored
 parameters: includes elevated concrete base

exchange rate
 C\$ 28.00

item	description	units/qty	unit price	total per well	in US\$Dollars
1 Afridev Pump	manual piston hand pump	1	C\$ 21,500.00	C\$ 21,500.00	\$ 767.86
2 base cement	minimum cement requirement for bases, sourced in La Cruz	10	C\$ 375.00	C\$ 3,750.00	\$ 133.93
3 base sand	1 meter sourced by locals, costs is for their fuel	1	C\$ 1,500.00	C\$ 1,500.00	\$ 53.57
4 base re-bar	3/8 inch rebar, unit in quintal (100 pound bundle)	2	C\$ 1,500.00	C\$ 3,000.00	\$ 107.14
5 base threaded rod	3/8 inch, unit in meters, stainless steel	2	C\$ 4,000.00	C\$ 8,000.00	\$ 285.71
6 block	6 inch blocks sourced in La Cruz	82	C\$ 90.00	C\$ 7,380.00	\$ 263.57
7 concrete forms	22 feet of 1x12 inch wooden forms	1	C\$ 500.00	C\$ 500.00	\$ 17.86
8 pvc	150 feet of 2 inch pvc	8	C\$ 180.00	C\$ 1,440.00	\$ 51.43
9 rope	300 feet to hang unit	1	C\$ 800.00	C\$ 800.00	\$ 28.57
10 gasoline	for pumping/pressurizing	5	C\$ 135.00	C\$ 675.00	\$ 24.11
11 fasteners	nuts and washers, 3/8 inch, stainless steel	1	C\$ 1,000.00	C\$ 1,000.00	\$ 35.71
12 contingency	cap and pump contingency, fasteners, pvc fitting, pump repairs	1	C\$ 13,500.00	C\$ 13,500.00	\$ 482.14
13 Total Caps and Pumps				C\$ 63,045.00	\$ 2,251.61
14 Total + taxes 15%					\$ 2,589.35

Appendix B1



PHFM WELL DRILLING COSTS

category: **Consumables**

parameters: numbers based on 150 feet of drilling
 parameters: no economy of scaled factored

exchange rate
 C\$ 28.00

item	description	units/qty	unit price	total per well	in US\$Dollars
1 PVC pipe	well development, 4 inch, high grade, 20' length	8	C\$ 980.00	C\$ 7,840.00	\$ 280.00
2 PVC cap	4 inch pvc cap	2	C\$ 100.00	C\$ 200.00	\$ 7.14
3 PVC cement	PVC cement, medium high grade	2	C\$ 400.00	C\$ 800.00	\$ 28.57
4 disk	Skil saw blade	1	C\$ 500.00	C\$ 500.00	\$ 17.86
5 blades	hack saw blades	10	C\$ 200.00	C\$ 2,000.00	\$ 71.43
6 buckets	5 gallon buckets	10	C\$ 150.00	C\$ 1,500.00	\$ 53.57
7 screening	steel mesh to filter aggregate, 1 inch and 3/4 inch, 3' x 3'	4	C\$ 100.00	C\$ 400.00	\$ 14.29
8 sand	4 meters sourced by locals, costs is for their boat fuel	1	C\$ 4,000.00	C\$ 4,000.00	\$ 142.86
9 cement	7 bags, sanitary seal	7	C\$ 250.00	C\$ 1,750.00	\$ 62.50
10 nails	2 inch (measure/units in pounds)	1	C\$ 100.00	C\$ 100.00	\$ 3.57
11 grease	1 quart buckets	2	C\$ 120.00	C\$ 240.00	\$ 8.57
12 bentonite	bentonite	4	C\$ 700.00	C\$ 2,800.00	\$ 100.00
13 hole plug	hold plug	1	C\$ 700.00	C\$ 700.00	\$ 25.00
14 gravel	1/2 rounded gravel (measure per 5 gal bucket) sourced by locals, 12 buckets req'd, costs is for fuel	12	C\$ 4,000.00	C\$ 48,000.00	\$ 1,714.29
15 hydraulic oil	5 gallon drum	1	C\$ 1,800.00	C\$ 1,800.00	\$ 64.29
16 gasoline	gallons of gasoline	20	C\$ 135.00	C\$ 2,700.00	\$ 96.43
17 engine oil	4 stroke engine oil (measure/units in quarts)	3	C\$ 150.00	C\$ 450.00	\$ 16.07
18 sacks	100 pound sacks to transport cement, sand gravel, etc.	100	C\$ 30.00	C\$ 3,000.00	\$ 107.14
19 contingency	consumables contingency (per well for damaged materials,	1	C\$ 13,500.00	C\$ 13,500.00	\$ 482.14
20 wash training	office utilities	1	C\$ 28,168.00	C\$ 28,168.00	\$ 1,006.00
21 TOTAL				C\$ 120,448.00	\$ 4,301.71
22 Total + taxes 15%					\$ 4,946.97



Appendix C



PHFM WELL DRILLING COSTS

category: Logistics

parameters: numbers based on 150 feet of drilling
parameters: no economy of scaled factored
parameters: based on ten night stay

exchange rate
C\$ 28.00

<u>item</u>	<u>description</u>	<u>units/qty</u>	<u>unit price</u>	<u>total per well</u>	<u>in USDollars</u>
1 gasoline	daily commute from La Cruz, 20 gallons per day for 10 days	200	C\$ 135.00	C\$ 27,000.00	\$ 964.29
2 gasoline	Bluefields to target community (round-trip)	90	C\$ 135.00	C\$ 12,150.00	\$ 433.93
3 boat launch	labor to lower boat	2	C\$ 500.00	C\$ 1,000.00	\$ 35.71
4 boat prep	run engine, clean engine, clean boat, general prep	1	C\$ 1,250.00	C\$ 1,250.00	\$ 44.64
5 airfare	domestic airfare (or road travel) 4 passengers	4	C\$ 4,185.00	C\$ 16,740.00	\$ 597.86
6 overnight	bluefields overnight upon departure	4	C\$ 1,080.00	C\$ 4,320.00	\$ 154.29
7 overnight	La Cruz, based on 6 man team for 10 nights	60	C\$ 350.00	C\$ 21,000.00	\$ 750.00
8 ground transportation	Bluefields prep, material movement, cargo	1	C\$ 13,600.00	C\$ 13,600.00	\$ 485.71
9 boat man	boat driver, \$30 per night for 10 nights	10	C\$ 900.00	C\$ 9,000.00	\$ 321.43
10 security	boat storage and security in La Cruz (\$5 per night)	10	C\$ 140.00	C\$ 1,400.00	\$ 50.00
11 aux labor	estimated daily average in La Cruz	10	C\$ 300.00	C\$ 3,000.00	\$ 107.14
12 overweight baggage	baggage MGA - BF	4	C\$ 650.00	C\$ 2,600.00	\$ 92.86
13 overnight	managua (1 triple, 1 single)	2	C\$ 6,480.00	C\$ 12,960.00	\$ 462.86
14 food	daily food allowance/allocation per person US\$19	10	C\$ 3,078.00	C\$ 30,780.00	\$ 1,099.29
15 water transportation	village to village rig transportation, fuel and labor	1	C\$ 13,500.00	C\$ 13,500.00	\$ 482.14
16 pre-project planning	visit target community to mobilize materials and leaders and onsite work plan	1	C\$ 38,500.00	C\$ 38,500.00	\$ 1,375.00
17 water	daily water allowance/allocation per person US\$3	10	C\$ 486.00	C\$ 4,860.00	\$ 173.57
18 contingency	food, snacks, coffee, cokes...	10	C\$ 2,160.00	C\$ 21,600.00	\$ 771.43
19 Wash Training	office utilities	1	C\$ 28,168.00	C\$ 28,168.00	\$ 1,006.00
20 Total Logistics Cost				C\$ 263,428.00	\$ 8,402.14
21 Total + taxes 15%					\$ 9,662.46

Appendix C1



PHFM WELL DRILLING COSTS

category: Logistics

parameters: numbers based on 150 feet of drilling
parameters: no economy of scaled factored
parameters: based on 15 night stay and 6 man team

exchange rate
C\$ 28.00

<u>item</u>	<u>description</u>	<u>units/qty</u>	<u>unit price</u>	<u>total per well</u>	<u>in USDollars</u>
1 gasoline	daily commute from La Cruz, 20 gallons per day for 15 days	300	C\$ 135.00	C\$ 40,500.00	\$ 1,446.43
2 gasoline	Bluefields to target community (round-trip)	90	C\$ 135.00	C\$ 12,150.00	\$ 433.93
3 boat launch	labor to lower boat	2	C\$ 500.00	C\$ 1,000.00	\$ 35.71
4 boat prep	run engine, clean engine, clean boat, general prep	1	C\$ 1,250.00	C\$ 1,250.00	\$ 44.64
5 airfare	domestic airfare (or road travel) 4 passengers	4	C\$ 4,185.00	C\$ 16,740.00	\$ 597.86
6 overnight	bluefields overnight upon departure	4	C\$ 1,080.00	C\$ 4,320.00	\$ 154.29
7 overnight	La Cruz, based on 6 man team for 15 nights	90	C\$ 350.00	C\$ 31,500.00	\$ 1,125.00
8 ground transportation	Bluefields prep, material movement, cargo	1	C\$ 13,600.00	C\$ 13,600.00	\$ 485.71
9 boat man	boat driver, \$30 per night for 15 nights	15	C\$ 900.00	C\$ 13,500.00	\$ 482.14
10 security	boat storage and security in La Cruz (\$5 per night)	15	C\$ 140.00	C\$ 2,100.00	\$ 75.00
11 aux labor	estimated daily average in La Cruz	15	C\$ 300.00	C\$ 4,500.00	\$ 160.71
12 overweight baggage	baggage MGA - BF	4	C\$ 650.00	C\$ 2,600.00	\$ 92.86
13 overnight	managua overnight (1 triple, 1 single)	2	C\$ 6,480.00	C\$ 12,960.00	\$ 462.86
14 food	daily food allowance/allocation per person US\$19	15	C\$ 3,078.00	C\$ 46,170.00	\$ 1,648.93
15 water transportation	Village to village rig transportation, fuel and labor	1	C\$ 13,500.00	C\$ 13,500.00	\$ 482.14
16 Pre project planning	visit to target community to mobilize materials, leaders and on-site work plan	1	C\$ 38,500.00	C\$ 38,500.00	\$ 1,375.00
17 water	daily water allowance/allocation per person US\$3	15	C\$ 486.00	C\$ 7,290.00	\$ 260.36
18 contingency	food, snacks, coffee, cokes...	15	C\$ 2,160.00	C\$ 32,400.00	\$ 1,157.14
19 Total Logistics Cost				C\$ 294,580.00	\$ 10,520.71
20 Total + taxes 15%					\$ 12,098.82



Appendix D



PHFM WELL DRILLING COSTS

category: **Capital**

parameters: numbers based on 150 feet of drilling
parameters: no economy of scaled factored

exchange rate
C\$ 28.00

item	description	units/qty	unit price	total per well	in US\$Dollars
1 barge	8 x 30 foot aluminum barge	1	C\$ 540,000.00	C\$ 540,000.00	\$ 22,178.57
2 barge motor	40 hp four stroke yamaha	1	C\$ 189,000.00	C\$ 189,000.00	\$ 7,762.50
3 barge retrofit	stabilizers, helm and stern, fuel storage, steering, throttle	1	C\$ 113,500.00	C\$ 113,500.00	\$ 4,661.61
4 mud pump	heavy duty steel impellor pump	1	C\$ 40,000.00	C\$ 40,000.00	\$ 1,642.86
5 compressor	heavy duty high psi high capacity compressor	1	C\$ 81,000.00	C\$ 81,000.00	\$ 3,326.79
6 generator	10000 watt yamaha gasoline generator	1	C\$ 121,500.00	C\$ 121,500.00	\$ 4,990.18
7 bits	specialty bits for mud, clay, rock	1	C\$ 86,400.00	C\$ 86,400.00	\$ 3,548.57
8 drums	high strength, lights weight drums for onsite water and fuel	1	C\$ 13,500.00	C\$ 13,500.00	\$ 554.46
9 quill	drill mast rotary motor spare	1	C\$ 135,000.00	C\$ 135,000.00	\$ 5,544.64
10 Total Capital Outlay					\$ 54,210.18

Appendix E



PHFM WELL DRILLING COSTS

category: **Nicaraguan Staff and Operating Costs**

parameters: numbers based on 150 feet of drilling
parameters: ALL national project staff and in-country well drilling ops costs

item	description	payment per month	payment per year
1 Administrator	Lead administrator, economics and compliance officer	\$ 1,041.44	\$ 12,497.28
2 Operations Mgr.	Operations Manager	\$ 627.57	\$ 7,530.84
3 Boatman	Driver and head of boat maintenance	\$ 350.00	\$ 4,200.00
4 Boat storage	wharf/slip space and security	\$ 120.00	\$ 1,440.00
5 Office	office rent and utilities	\$ 625.00	\$ 7,500.00
6 Insurance	vehicle, drilling rig and boat insurance	\$ 296.00	\$ 3,552.00
7 Accountant	obligatory govt reporting and tax management	\$ 230.00	\$ 2,760.00
8 Driller	National master driller (self-funded plus PHFM subsidy of \$500)	\$ 500.00	\$ 6,000.00
9 Legal	Govt compliance and registration	\$ 230.00	\$ 2,760.00
10 Total Nica Project per year		\$ 4,020.01	\$ 48,240.12



Appendix F



WASH TRAINING MATERIAL COSTS (Based on village of 60 homes and 20 promotor)

item	Per village	Annual	One-time	Notes
Ongoing Costs				
Workbooks (20 pieces x 4 lessons – average of 3 bids)	\$308			
Brochures (80 pieces x 4 lessons – average of 3 bids)	\$292			
Promotor caps (20 pieces – includes \$50 one-time digital imaging fee)	\$224			
Badges (20 pieces)	\$17			
Pencils, pocket folders, sticky nametages	\$25			
Refreshment for trainees (drink and snack for 20 x 4 lessons)	\$40			
Total ongoing	\$906			
Repeated-use consumable costs (restock after 4 villages)				
Chart paper, permanent markers, dry-erase markers, pencil sharpeners, tape, glitter		\$100		
Total repeated-use consumables per village (assuming 4 villages per year)	\$25			
One-time startup costs (over time materials will need to be replaced or supplemented)				
Posters (14 pieces 24x36 laminated and 14 pieces 18x24 laminated)			\$784	
Laminated game cards/manipulatives (4 sets x 2 activities)			\$90	
Hardware (hooks, clips, dry board erasers)			\$16	
Whiteboard and stand			\$100	
Total one-time			990.00	Already paid 1/15
Projected annual costs to replace or supplement "one-time" materials (assuming 4 villages per year)		\$300		
Projected per-village costs to replace or supplement "one-time materials (assuming 4 villages per year)	\$75			
Total per-village costs	\$1,006			

