



# Introduction

Dear Reader,

This past summer, we had the privilege of traveling to Ghana with a group of close friends. The purpose of our trip was to visit and commission two wells for project Well Done, a clean water effort we helped launch and support from 2007 and into 2008. From the months spent working on the project implementation to actually traveling to the villages to visit the completed wells, the journey has quite simply been an incredible one. Along the way, we’ve learned the complexities of implementing a clean water project in a remote region of a developing country, observed the plight of those living in poverty in rural Ghana, and perhaps most significantly, received inspiration from the countless individuals who are tirelessly working on the front lines to combat these issues of poverty and sickness in a diversity of roles and

capacities. We thank you for taking the time to read through this trip report, and it is our hope that through these pages, you too will learn, observe, and receive inspiration. While the words and images that fill this report ultimately cannot do our experiences justice, we hope that they may provide you with a glimpse into our journey – all the sights we encountered, the lessons we learned, and the amazing individuals we met that have radically impacted our lives and challenged us to action.

With Warm Regards,



Jim Yoon



Joshua To

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# A World Without Clean Water

1,  
200,  
000,  
000

people without access to clean water.  
That's roughly 4 times the population  
of the United States.

# 6,000

people die every day from  
water-related disease

# 1

person dies every 15 seconds

## Water Matters

The numbers are staggering. According to the most recent global statistics, there are approximately 1.2 billion people throughout the world who lack access to safe drinking water. In perhaps an even more sobering statistic, the World Health Organization estimates that approximately 6,000 children die every day from water-related diseases. The lack of this most fundamental of resources, clean water, remains one of the most vicious perpetrators of poverty and sickness in the developing world. Without a basic foundation of safe drinking water and sanitation, the work to improve health care, eradicate extreme poverty and hunger, increase access to education, and address nearly every other, non-violent humanitarian crisis facing the developing world, all remain an uphill battle. For those of us with a seemingly endless supply of safe water at the turn of a knob, the connection is difficult to make, but for those whose livelihood depends upon

the daily struggle to find and retrieve water, there is a dire realization that without a local and safe water supply, no effective and sustainable improvement in living conditions can occur. Schools can be built, yet children remain too sick to attend or are otherwise relegated to the daily duty of hauling water over long distances for their families. Healthcare services can be provided, yet those treated are only left to immediately become ill again after consumption of contaminated water. Hygienic and sanitary practices can be taught, yet without the availability of clean water for hand washing, children continue to be infected with diarrheal disease, one of the leading causes of child mortality throughout the developing world. For 1.2 billion people throughout the planet, a world without clean water means a world of little hope for the improvement of living conditions.



# Our Glimpse Into This World

In the summer of 2005, a group of us traveled to Ghana through Pioneers-Africa, a Christian missions organization dedicated to serving the most remote and underdeveloped regions of the country. During that trip, our eyes were opened to a landscape full of beauty, a culture rich in tradition, and a people radiant in warmth and hospitality. Among all that we saw during our travels though, one encounter stood apart from the rest. In a small village that we visited during a brief medical campaign, we met a group of Ghanaian children, not yet five years in age, each suffering from severe cases of malaria. Their bodies looked tired and feeble, yet they nonetheless managed to greet us with broad smiles on their faces. After a doctor's examination, the children received malaria pills that were prescribed to treat their illnesses. With these pills clenched tightly in their hands, they proceeded to run off to the closest water source, a nearby pot sitting under the sun. In a sight of crushing irony, we stood and watched as the children eagerly scooped up the murky, insect-ridden water to swallow the medicine they clenched in their hands. Much stayed with us from our trip to Ghana, yet perhaps nothing more than this sight of a small group of Ghanaian children, eagerly and unknowingly attempting to swallow the cure to the illnesses that plague them with a very source of illness itself.





# Well Done

## A Simple Response

While the numbers are indeed staggering and the issues of poverty in the developing world deep-rooted and complex, an encounter in a small Ghanaian village has remained with us, compelling us to action. During that first trip to Ghana, we had been hosted by Fred Dimado, the National Director of Pioneers-Ghana (we more commonly refer to him as “Uncle” Fred, a title of respect and endearment in the Ghanaian culture). In him, we discovered a trusted partner and a true role model in his passionate and sacrificial commitment to the welfare of the country’s most impoverished and underrepresented peoples and communities. In the years following our trip, we continued our correspondence with Uncle Fred and occasionally bounced potential project ideas back and forth.

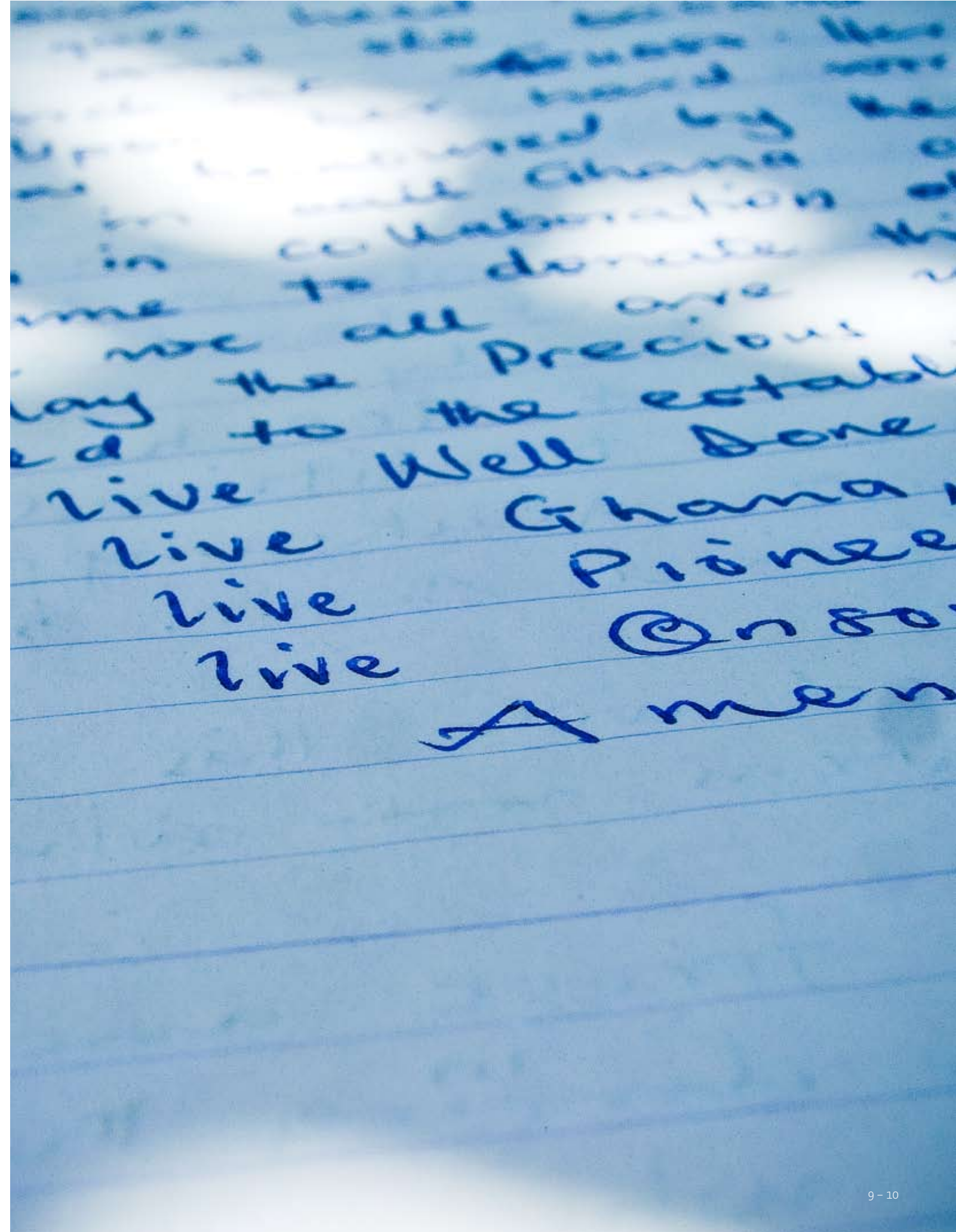
Then, towards the beginning of 2007, we had a completely spontaneous idea – would it be possible to drill a well in Ghana? Granted, none of us knew the first thing about drilling wells in a developing country and understood it was no simple matter, yet we nonetheless shared a mutual conviction that the cause was hugely important and the idea at least worth exploring. The project had its humble beginnings. Uncertain where to even begin, we fumbled about talking to random people, contacting various organizations, and searching online for any resources we could get our hands on. Then, through a series of conference calls with Uncle Fred, things started to amazingly come together. We tentatively approached Uncle Fred, expecting him to likely (and quite reasonably) pass off our idea as just another whimsical notion from a group of well-intentioned, yet naïve and inexperienced guys. Instead, Uncle Fred listened to us with the utmost interest and enthusiasm, and even sent us a list of previous clean water projects that Pioneers had initiated throughout rural Ghana. He knew the issues, had strong relationships with the right people, and could get the job done. As if the skies had just miraculously opened, we suddenly had a partner with not only a wealth of experience in implementing this type of project and a strong local presence in the target communities, but perhaps most significantly, one whom we had a deep trust in.

We decided to call the project Well Done - a statement reflecting our belief that through the most basic of efforts and even with the simplest of ideas, a commitment to drilling one well in one

village, we could still do something that radically impacts and possibly even saves the lives of others. Throughout 2007 and into 2008, we worked closely with Pioneers-Ghana on the project, leveraging their strong local presence and relationships in various remote villages throughout the country to identify a community with a particularly dire water supply situation. This process led us to the village of Nso Nyame ye (on-soon-yah-me-yeh), located near Cape Coast in the Central Region of Ghana. We raised the financial resources necessary to cover the cost of drilling the well (see p. 45-46), while Uncle Fred and our partners at Pioneers-Ghana worked diligently with the leaders of the village, the proper governmental agencies, and various professional experts in technically and logistically seeing the project through. In another remarkable turn of events, our one well unexpectedly multiplied into two, as word of our project reached leaders at the international headquarters of Pioneers. An individual named Timothy Hsieh generously decided to match our funds so that another well could be drilled in Babianeha (beh-be-ah-ne-ha), a village about 10 miles from Nso Nyame ye with a similarly dire water supply situation. After battling through various project hold-ups and a season of exceptional rain and ill weather, the wells were finally constructed towards the beginning of June 2008.

During one of our conference calls with Uncle Fred towards the latter stages of the project, he posed the idea of us traveling back to Ghana to be present for the commissioning service of the wells and to also have the opportunity to visit some other villages throughout the country with pressing water supply needs. Looking at our depleted bank accounts, busy work schedules, and endless responsibilities back at home, we initially wavered - yet that was bound to last for only a second. The opportunity was too amazing for us to pass up, and for a group as naturally restless as ourselves, the thought of packing up our bags and flying back out to the other side of the world was far too irresistible. In a relatively short time frame, we scrambled to make our travel arrangements, secure our visas, and receive our dreaded immunizations.

And just like that, on June 19th, 2008, our bags were packed and we were flying back out to Ghana...





# Meeting Heroes

## Fred Koblah Dimado

Fred Dimado, more commonly referred to as “Uncle” Fred, is National Director of Pioneers-Ghana. From actively working in remote villages throughout the country, to managing the activities and directing the strategies of a non-profit organization, to regularly advocating the plight of the poor before government

officials, businesses, and the media, Uncle Fred is a champion of the underrepresented and a combatant of poverty in the utmost sense of the term. He is a trusted leader, a respected role model, and a beloved father figure to all those who’ve crossed paths with him, both here in the US and abroad in Ghana.





# Well Done

## No Longer Just a Project But a Reality

For months on end, the words “Nso Nyame ye” and “Babianeha” had remained just that, mere words on a piece of paper. And despite having made their way into endless e-mail correspondence, conference calls, and fact sheets, the actual villages remained a distant reality in our minds.

On the dawn of June 22nd, we awoke from our deep slumbers to bid farewell to Accra, the capital of Ghana, and begin our journey into the rugged interior of the Cape Coast region. Though sleep-deprived and weary from travel, anticipation and anxiety dominated our thoughts. For the first time, we’d finally be stepping foot into the villages we had concentrated our efforts on for so long. As we’ve come to learn is true of every drive beyond the capital, the road to Nso Nyame ye and Babianeha was filled with every form of obstacle imaginable, from crowds of people blocking our path to unpaved dirt roads threatening to trap our vehicle in unforgiving mud. We journeyed through the crowded capital of Accra, along the scenic beauty of Ghana’s coastline, by the historic slave castles of the nation’s sobering past, and finally into the remote forests of the Cape Coast region. After traveling along an uninhabited dirt road for what seemed like

hours, a village suddenly emerged out of the endless jungle. With a big smile on his face, Uncle Fred announced, “Welcome to Nso Nyame ye, brothers.”

Our first glimpse of the Nso Nyame ye and Babianeha villages was that of an open expanse of green field graced with a group of children playfully running through the grass. As we exited the vehicle, the children rushed our way in excitement, mesmerized by the group of foreigners who had just arrived. From there, the events proceeded in a series of flashes - we were bombarded by the jubilant children, formally greeted by an ever courteous village chief, promptly given a tour of the village homes and introduced to welcoming families, and somewhere amidst that flurry, even educated by local farmers on the art of growing cocoa beans. We had been thrown into the heart of the village’s vibrant activity, and in what seemed like an instant, everything finally became real to us. No longer was this just a set of difficult-to-pronounce words on a piece of paper, nor even the mere location of our well project, but rather something incredibly more meaningful - a very real place alive with very real people.





# Well Done

## A Call to Responsibility and Action

After our introduction to the chief and tour of the village, we proceeded on to the commissioning service. Many parties had come together for the occasion, including representatives from Pioneers-Ghana, the Community Water and Sanitation Agency (CWSA, the governmental agency overseeing all rural water and sanitation development in the country), the Abura-Asebu Kwamankese District Assembly, and of course, the residents of the villages themselves. A journalist from the Graphic, Ghana's most widely distributed newspaper, and a reporter from Ghana TV3 were also on hand to cover the events. After a few native Ghanaian songs of celebration and thanks, several speeches were delivered to commission the wells, which ranged in topic and emphasis.

Jim Yoon spoke on behalf of the BRUTE LABS team, humbly acknowledging the group's small role in the project and giving thanks to all of the parties that had come together to turn a small idea into an amazing reality.

Fred Dimado, Director of Pioneers-Ghana, commended the BRUTE LABS team for its initiative and efforts, and also used the opportunity to issue a powerful call to the government to take further responsibility over the welfare of its country's people, particularly the impoverished. He stressed the need for government to play a more active role facilitating a cohesive network

between public and private donors, agencies, non-governmental organizations, and communities to work towards improving the quality of life for those living in the most deprived areas of the nation, such as the villages we were currently working in.

Kofi Opoku Tufuor, the Central Regional Director of the CWSA, challenged the villagers to take ownership of and responsibility for the new wells to ensure their long-term sustainability. He further encouraged the community to take the momentum of our efforts and enhance the effectiveness of the clean water project by constructing sanitation facilities and improving hygienic practices in the villages.

The ceremony concluded with the chief and representatives of the villages expressing their sincere gratitude for the hard work and sacrifice of each of the parties. Soon after the ceremony, the reporter from TV3 approached us, expressing amazement at all he had witnessed. He had lived in Ghana his entire life and had been reporting on the country's major affairs for years, yet this was the first time he had ever set foot in one of the country's villages and observed the conditions of life in them. That day, we commissioned the wells before a small crowd in a remote, unassuming village, yet the messages shared and the calls to action issued were to be broadcast to millions of viewers and readers across the nation.



“One of the greatest moments of my life.”

– Joshua To





“Brothers, this well does not only impact the people sitting here before us, but has profound implications for future generations to come...”

–Fred Dimado during commissioning speech of Nso Nyame ye well



# Banda

## Journeying Across the Country

After an amazing, yet draining first few days in Ghana, we were rewarded with an evening of well-needed rest along the beautiful beaches of Cape Coast. A dive into the ocean, a warm Ghanaian meal, and a night of uninterrupted sleep did wonders for our tired bodies. Replenished and rejuvenated, we awoke early the next morning to begin our long journey from the southern coast of Ghana to the northern reaches of the country. The latter half of our trip was dedicated to surveying the potential water needs of two villages that Pioneers-Ghana has been working with in the Brong-Ahafo region of Ghana, an area located far from any of the major cities and often referred to as the agricultural breadbasket of the country. In a grueling car-ride that lasted nearly twelve hours and spanned half the country, we traveled along bumpy-dirt roads and newly-paved highways alike, through major cities and shantytowns, past crowds of people and barren forests, all the while soaking in the contrasts and diversity of the people and landscape. As evening descended and our eyes began to strain in the pitch dark, we finally arrived in Banda-Ligbi, a small town located in the outskirts of the Brong-Ahafo region. Over the past several years, Pioneers-Ghana has focused much effort in the Banda-Ligbi area, developing both a local health clinic and a high school in the region to help meet the needs of a people with little access to either of these basic services.

## The Impact of Dedicated Individuals

On the morning of our scheduled visit to Kamancheli and Mekoda, the two villages we would be surveying later that afternoon for water supply needs, we had the privilege of touring both the health clinic and high school that Pioneers-Ghana has established in Banda-Ligbi. During this time, we met a group of individuals involved in an effort to provide health and educational services to the people living in the region.

We first visited the Banda-Ligbi Health Centre, a clinic established by Pioneers-Ghana and currently operating under the oversight of Dr. Margaret Mensah. Dr. Margaret is a Ghanaian

physician, with a Masters Degree in Medicine and Surgery from the University of Ghana Medical School, a Masters in Community Health from the University of Liverpool School of Tropical Medicine, and a Diploma in General Counseling from the School of Counseling and Therapy in London. Her experience and qualifications could readily secure her a well-compensated job as a physician in the capital or even out of the country, yet she instead single-handedly oversees the remote and understaffed clinic out of a passion to provide for her country's people who would otherwise lack access to basic, affordable healthcare. We also met several locals from the region whom Dr. Margaret has trained to work at the centre, along with a group of three medical students from the University of Newcastle volunteering at the clinic and elsewhere throughout Ghana for the summer. We learned that in 2007 alone, the Banda-Ligbi Health Centre has received nearly 6,000 patients, while also conducting traveling health clinics to 18 kindergarten schools and 11 communities. The clinic was an astounding portrait of a committed organization and a handful of dedicated individuals whose daily sacrifices are making a profound impact on the livelihood of an entire region's people.

Next, we visited the Banda Senior High School, also established by Pioneers-Ghana. The school serves as the only senior high school in the entire Banda traditional area, which consists of twenty-five communities, ten settlements, and a population of approximately 50,000 people. During our time at the school, we were introduced to the Pioneers-Ghana volunteers helping to both operate the school on a day-to-day basis and teach several of its classes. This group consisted of a group of four young Ghanaian men known as the "Banda Boys." Much like Dr. Margaret, we learned that these young individuals, not much older than ourselves, could each be earning far more by teaching at schools in the main cities of Ghana, but were instead committed to the cause of serving the most underrepresented peoples of their country through the provision of quality education. To us, the impact of the Banda Boys symbolized the hard work and dedication of individuals such as Uncle Fred and Dr. Margaret coming full circle. Through an example of dedicated, sacrificial service, a new generation was being brought up to carry forth a noble effort with renewed energy and enthusiasm.





## Meeting Heroes

# Dr. Margaret Mensah

Dr. Margaret is a Ghanaian physician with a medical degree from the UK. She oversees the Banda-Ligbi Health Centre, a clinic established by Pioneers-Ghana and one of the few health centers serving the region. Dr. Margaret's experience and qualifications could readily secure her a well-compensated job as a

physician in the capital or even out of the country, yet she instead single-handedly and tirelessly oversees the remote and understaffed clinic out of a passion to provide for her country's people who would otherwise have no access to basic, affordable healthcare.





# Meeting Heroes

## The Banda Boys

Evans Twumasi Ansu, Seth Oteng Ofori, Evans Akosah, and Mi-chaiah Amponsah, more commonly known as the Banda Boys, are a group of four young men volunteering with Pioneers in the Brong-Ahafo region of Ghana. Despite demanding work and living conditions, minimal recognition, and limited financial compensation, these men faithfully serve at the Banda-Ligbi

School, the only high school among a regional population of approximately 50,000 people. They symbolize the passage of a torch - a new generation of native Ghanaians committed to the welfare of the country's most underrepresented and neglected communities and children.





# A Truck Ride Through Bui National Park

After having spent the morning observing some of Pioneers' ongoing efforts in the Banda-Ligbi area, we hopped in the bed of a pickup truck to begin our journey to the Kamancheli and Mekoda villages. This ride took us through the Bui National Park, which stretches for 50 kilometers along the border between Ghana and Cote d'Ivoire. The rarely visited Bui National Park is one of the largest protected areas in Ghana, and though we were unaware of this at the time, also home to the densest hippopotamus population in West Africa. The conditions of the dirt road through the park and onward were perhaps the worst we had experienced yet, as we found ourselves constantly ducking to dodge the overhanging trees lining the road while fiercely gripping onto the sides of the truck bed. Along our way, we gave rides to a group of children making their long trek home from school, as well as a woman carrying a large load of crops back to her village. They each stayed on the truck for nearly half an hour before reaching their destinations. We had heard the stories before, but now observed the hard reality of making these arduous treks on a daily basis by foot.

Not all was given to such serious thought and observation though. The Banda Boys had joined us for the visit to the villages, and during the car-ride, they posed us a question that apparently crosses all cultures and continents - a question for the ages. They asked, "...if both our mother and our newly-wed wife were drowning at the same time and we were left with the choice to save only one of them, whom would it be?" So right there, getting knocked around in the back of a beat-up pickup truck while journeying through the middle of the African jungle, a group of guys from California had a good laugh with a group of guys from Ghana who though from completely different cultures and opposite sides of the world, are not only engaged in the same work to serve the Banda-Ligbi people, but share in the same humor and passions. It was a foolish, yet glorious moment that we've held onto closely from our time in Ghana.





# Meeting Heroes Koby

Koby serves on the Pioneers-Ghana staff, overseeing the organization's activities in the Central Region of the country. We first met Koby during our initial trip to Ghana in 2005, then a young staff member still in training. As we reunited with Koby only a few years later, we witnessed an individual who has grown remarkably in his leadership within the organization and in his committed service to the Cape Coast people, including the villages in which both our wells are located. Throughout the

implementation of the project, Koby faithfully worked in the trenches, toiling through physical hardship and ill weather to see the effort through. Individuals such as Koby are the true champions of projects such as ours. He receives little outside recognition for his hard work, yet remains steadfast in his commitment to serving those in need on an intimate and face-to-face level.



# Banda

## A People in Need

After over an hour-long truck ride, we finally arrived in Kamancheli and Mekoda. Like Nso Nyame ye and Babianeha, we were introduced to the chiefs and given a tour of the villages. During this time, the chief and villagers explained their current water situations to us. Both villages lack any reliable, local water source beyond a few unprotected ponds and streams that fill with muddy water during a heavy rainfall. In the absence of this unreliable and unsafe supply, the villagers walk several miles on foot to fetch water from another village in the region. This long trek is made on a daily basis during the dry season, most often by the young children and women of the village. During our time at Kamancheli, we actually witnessed one such group of children returning home from their day-long journey to retrieve water. These children were relegated to this task by necessity, and were therefore unable to attend school or engage in other more nurturing and productive activities.

Upon gaining a better understanding of the region's geography, we learned that the tragedy of the situation is that the villages are literally sitting atop an abundance of freshwater. The villages of Kamancheli and Mekoda are located in a tropical region of the country that experiences large quantities of annual rainfall, some of which seeps into the soil and eventually into the groundwater system, saturating pores in the granular soil and fractures in the underlying rock. If accessed with a properly sited and constructed well, this groundwater source could provide a safe and sustainable water supply for the basic needs of the community far into the foreseeable future. The children and women would no longer be relegated to spending their days hauling loads of water home to their families, disease and sickness rates would dramatically decrease, village trade and

productivity would be boosted, and so forth. For Kamancheli and Mekoda, the lack of clean water clearly equated to a debilitating stagnation in the improvement of living conditions.

The plight of these people was further illuminated to us in an eye-opening encounter. During our tour of the villages, a man approached us and reached out his hands for us to see, exposing rough calluses and deep scars covering his palms. Unable to understand his native Ghanaian dialect, we asked Uncle Fred what the man was trying to communicate to us. Uncle Fred's response was heartrending. For several months, the worker along with other men in the village had been trying to dig through the soil to reach water using makeshift tools and their bare hands. However, without the proper mechanized tools and equipment, they were left to hopelessly dig into the ground to no resolve, in the process tearing their hands upon the hard rock that is eventually encountered several feet before reaching any substantial amount of water.

Despite living under such difficult circumstances, the villagers of Kamancheli and Mekoda carried a strong sense of dignity about them, both hosting us with great courtesy and refusing to simply take on the attitude of a struggling beneficiary. Out of what little they had, they even offered our group a valuable rooster as a gift of appreciation to us for visiting their villages. Through our observations of these people - their perseverance in the face of adversity and their dignity in stature - we formed an immense respect for these individuals and communities and feel privileged at the mere possibility of working alongside them in the future to develop a solution to their pressing water supply crisis.







“We’ve been trying to dig a well  
with our bare hands, but we’ve  
hit rock. These are my scars.”

– Nabila Dibontio, a villager of Mekoda





A people of hospitality, a gift of appreciation.



# Lessons Learned

## Learning to Think Long-Term

During our travels throughout several villages in the country, we would often come across what the local Ghanaians referred to as “orphan boreholes,” wells which had been abandoned over time due to a malfunction in equipment, a drastic drop-off in water production levels, or some other unforeseen circumstance. These facilities, having once provided an invaluable water source to their communities, were now simply left to collect dust and rust away. The frequency of these sightings was disheartening. Naturally, a question arose in our minds – would our wells be destined to the same fate?

Through coming face-to-face with a sobering reality – that projects such as ours are often initiated with little foresight, eventually leaving them to be “orphaned” - we came to learn the essential importance of thinking long-term. The construction of a well, while marked by its own set of unique difficulties, is nonetheless a relatively straightforward process - the real challenge comes in developing the framework by which that well is to be operated and maintained into the future. In fact, we learned that the mere construction of a well with little thought given to long-term operations has the capability of doing far more damage for a community than good, as people come to develop their practices and reliance upon a facility that ultimately cannot be sustained. When that facility abruptly breaks down or fails to produce an adequate water supply, individuals are left stranded. As the orphan boreholes stared us in the face, we were struck by the reality that the best of intentions, including our own, could have profoundly negative impacts on the very communities we are trying to serve.

## Meeting the Experts

Thankfully, we weren’t left to tackle these issues on our own. During our time in Ghana, we had the privilege of meeting two local water experts, Daniel Frempong and Kofi Opoku Tufuor, who both have decades of experience in the work to bring adequate water supply and sanitation to the rural areas of the country. Mr. Frempong, a hydrogeologist with 20 years of experience in the water industry, is director of Beza-Lel Water and Agro Services Ltd., a Ghanaian-owned water consultancy with extensive experience in water supply and sanitation work. Mr.

Frempong and Beza-Lel had partnered with us on the project, providing us with their engineering services at a discounted rate in a shared passion to reach the most underdeveloped regions of the country. Mr. Tufuor is the Central Regional Director of the Community Water and Sanitation Agency (CWSA), the governmental agency working to expand water and sanitation services throughout the rural areas of Ghana. Through face-to-face meetings with these local experts, we learned several key principles of implementing an effective and sustainable clean water project.

## Local Level Implementation

One of the overarching principles we gained insight into was the importance of project implementation within a local context. This type of implementation not only involves the ongoing engagement and active participation of the village in which the project is located, but also that of local Ghanaian organizations, companies, governmental agencies, and in our case, even the local press. Through our discussions and observations, we realized that far too often, foreign organizations or governments initiate projects while making little to no effort to involve or understand the political, governmental, and cultural context in which they are operating. In retrospect, we realized we would’ve likely gone down the same path if left on our own, but were extremely fortunate to have been working in close partnership with Pioneers-Ghana, a native Ghanaian organization with a strong local presence in the project areas. Uncle Fred and the Pioneers team had not only been consistently working in the Nso Nyame ye and Babianeha villages for several years prior to the initiation of our water project, but also intimately understood the local environment and culture in which the project was being implemented and had a strong rapport with the village leaders, organizations, and governmental agencies involved. Without this local expertise, the project would have likely failed. We learned that while an outside individual or organization may rightfully claim to be an expert in a given field or issue, implementation of any type of project of this nature must be performed within a local context and in this capacity, there are no greater experts than the locals themselves.





# Guiding Principles & Lessons Learned

## Community Involvement and Ownership

Another key lesson we learned was the importance of community involvement and ownership in ensuring the long-term success of the project. The earlier and the more significantly the beneficiary community is involved, the greater the likelihood that the facility will be well cared for into the future. In our case, this involved close community interaction and education prior to and during construction of the well. In addition, the project scope included facilitating the formulation of a WATSAN committee. This is a group of villagers appointed by the community to oversee the operations and maintenance of the well. Prior to the construction of the well, this group is thoroughly educated and equipped with the resources to take on this responsibility. Under the regional scheme of the Community Water and Sanitation Agency (CWSA), the WATSAN committee is furthermore connected with a regional, professional well caretaker. This regional caretaker is available to provide support to the WATSAN committee during cases of serious mechanical failure or to provide replacement parts which otherwise would be extremely difficult for the village to obtain. Through establishment of such a local and regional governance structure over the operations and maintenance of the well, the village is no longer dependant upon an outside body to ensure the ongoing productivity of the well, but rather takes this responsibility directly into its own hands.

While the Nso Nyame ye and Babianeha wells were entirely funded by outside support, we learned that another effective means to promote community ownership over the well is by including the village as an actual financial stakeholder in the project. This involvement can take on many different forms and levels, including a community down-payment for a portion of the well construction costs, contribution into an account reserved for costs associated with long-term maintenance of the well, or development of a “pay as you grab” system, in which villagers pay some universally affordable rate as they retrieve water that can either help cover the capital cost of the well, support its ongoing maintenance, or possibly even fund other development

projects in the village (e.g. latrines, hand washing stations, etc.). The appropriate framework to institute is dependant upon the unique circumstances of any given community.

The encouragement of meaningful community involvement throughout the project process and beyond does not only increase the likelihood of the project’s effectiveness and long-term viability, but just as significantly assigns the proper respect, dignity, and responsibility to the beneficiaries - something that individuals living anywhere in the world, under however extenuating circumstances, rightfully deserve.

## A Holistic Approach

A clean water supply is only part of the solution. In the fight to combat waterborne diseases and related problems, sanitation is often the critical missing component. Both experts repeatedly stressed this oft neglected consideration during our discussions. Water and sanitation are intricately linked, and the effectiveness of a clean water project is highly dependant upon a parallel effort to improve sanitation facilities and hygienic practices in the selected community. This can be promoted through various means such as the construction of latrines, the education of villagers on proper hygienic practices, the provision of hand washing taps from a clean water supply, and so forth. A clean water source opens the door for potential improvement in sanitation practices, while the implementation of the latter fully realizes the efficacy of the clean water project in terms of health impact and life expectancy. In the case of the Nso Nyame ye and Babianeha villages, we plan to continue working through Pioneers-Ghana and the CWSA to encourage the communities to initiate sanitation projects now that a clean water source has been provided for. In the future, promotion of sanitation efforts along with our clean water focus will be an even more integral component of our project approach.





# Guiding Principles & Lessons Learned

## A Guiding Philosophy – But a Small Part of a Big Picture

Beyond the technical details and logistical nuances of implementing a successful clean water project, our most significant takeaway was the realization that we are merely a small part of a much bigger picture. During our travels, we encountered several amazing individuals who are working to tackle the clean water problem head-on in various capacities - from volunteering in non-governmental organizations and running concerned businesses, to working in government or raising awareness through journalism. Through meeting these individuals, we discovered that we are simply a small piece of a much greater and more powerful whole. Real solutions and change can only be enacted as these pieces come together in working towards a common, visionary goal – in our case, this goal being the alleviation of water-related sickness and poverty in rural Ghana through the provision of clean water and sanitation. This belief in the power of the collective to enact real change – a belief that BRUTE LABS is built upon – was strongly reaffirmed through all that we saw and encountered during our travels in Ghana. The affirmation has pushed us to move forward more strongly than ever in our work understanding that we, too, are a small, yet significant contributor to this endeavor.





# A Different Perspective

## Greg's Experience



Over a year ago in May of 2007, Josh To approached me with an idea. He wanted to push the limits beyond anything BRUTE LABS had ever attempted. When Josh and I co-founded BRUTE LABS, our idea was to launch as many projects as possible and to make a measurable impact on the world for good. At that point, we had launched a handful of projects, all of which had humble but notable results. We had focused on things that were relatively easy, close to our community and could be done in about a month. But this idea was different. “I want to dig a well,” Josh said, “...in Ghana.”

Now I wasn't shocked by his ambition, but to be honest, I felt overwhelmed at the idea. Africa to me was a far away and intimidating place – people there face real challenges like famine, AIDS, malaria and civil unrest. I, as a young Silicon Valley type in my twenties, felt under-qualified to say the least.

Then we had a phone call. After a conference with Uncle Fred, I felt a bit more optimistic. Over the crackling Skype call to somewhere in central Ghana, Fred started to convince me that this project might be possible. Uncle Fred had experience. He knew people who could survey the land and a local contractor to drill the “borehole,” as he termed it. He had pricing estimates and most importantly to me, he had faith in our team.

I left that call feeling empowered because I now had a goal that I knew how to achieve. We needed eight thousand dollars, and I thought that if I could convince a small number of people to take an emotional stake in the project's success, I'd be able to get those same people to take a proportionate financial stake in the project.

To be honest, it didn't take long to reach our target. I talked to

family and friends-of-family personally, explaining the need in Ghana as well as our ability to make a real difference. I felt it was important to put my money where my mouth was and so I decided to make the largest charitable donation I've ever considered - \$1000 of my own hard earned cash.

I think that what convinced me to contribute was how personal the donation was. Instead of writing a check to a large organization with many administrative costs, I knew that my check would create one-eighth of a well for a real community on the other side of the world.

It was amazing to watch the project move forward from there. We approached the ideal season for drilling and Uncle Fred let us know that we'd broken ground. Josh and several members of the BRUTE LABS team started making plans to travel to Ghana

for the well's dedication and inauguration. The choice to stay in the US was difficult for me, but I felt like the financial burden of travelling to Ghana was too much to handle at the time.

Much of the contents of this report recount the details of the team's trip to Ghana, the people they met and the community our well is helping today. When our team returned, I was given a ceremonial sash matching the ones Josh and the rest of the team wore at the well's dedication ceremony. Though I didn't have the opportunity to physically meet the people I'd helped, I feel connected to them in a real way. I felt as if I'd been acknowledged not only at the ceremony, but also as a person who had made a measurable impact on their lives. The feeling is indescribable to know what has resulted from project Well Done.

Greg



# Developing a Clean Water Solution

The general process for developing and implementing a clean water solution is sequenced in the timeline below





# Costs of Drilling a Well

The costs of a clean water project vary greatly depending upon the geographical location of the site, the required facilities, the quality of the water, and the availability of materials. The estimated cost for the construction of a typical borehole is presented below.

Hydrogeological Investigations	970
Drilling and Construction of Borehole	
PVC	1,000
Gravel	200
Fuel	1,500
EQ	1,100
Staff	200
Pumping Test	600
Water Quality Test	80
Pad Construction	1,000
Pump Supply and Installation	1,000
Caretaker Training	200
Engineering and Well Completion Report	150
Total	\$8,000







# Farewell

The trip wouldn't feel quite complete without a final car ride back to Accra. For one last time, Uncle Fred manned the wheel of our rented 4Runner as we embarked on the strenuous twelve-hour trek from Banda to Accra. We arrived back in the capital near midnight, drained and exhausted. The arrival back to Accra was bittersweet, as we were relieved to be back in familiar surroundings and nearer our beds, yet knew this was also the time we'd have to say our goodbyes to Uncle Fred, who would awake at dawn the next morning to tirelessly travel back to Cape Coast by public bus and resume an ongoing course he had been attending in non-profit management. Over the long and eventful week, Uncle Fred had hosted us with the warmth and care of a family member, guided us with his words of experience and wisdom, and taught us through an amazing example of sacrifice and commitment. Saying our farewells with him was perhaps one of the most difficult moments of our trip. We parted with grateful words and long hugs, uncertain when we'd meet again.

That night we slept like babies, finally free of the anxiety and uncertainty that had marked every other night of our trip in Ghana. We awoke early the next morning to have our final Ghanaian breakfast, pack our bags, and say our goodbyes to the Pioneers guesthouse staff. During the afternoon, we visited a marketplace in the heart of the capital to buy our customary gifts for family and friends back home. Determined not to play the part of the naïve tourist, we spent hours fiercely haggling over every dollar and cent spent on every bracelet and postcard acquired. With our packs and duffels now bursting at the seams, we were given a ride by Steven, another Pioneers staff volunteer, to Kotoka International Airport to catch our departing flight to London.

As we sat at the airport staring out over the glimmering lights of the Ghanaian capital, a thousand thoughts and emotions flooded our minds. The trip had simply been one incredible experience after another. We thought of all the monumental moments - commissioning the wells in Nso Nyame ye and Babi-aneha, meeting with government officials and water experts, giving a speech before journalists and the press, shaking hands with village chiefs, watching children and families drink water from the wells. We laughed over some of the lighter ones - riding in cars and trucks for hours on end with our backs bent in a single awkward position, clumsily balancing our buckets of cold water and baskets of toiletries during our early morning showers, sweating profusely in a hundred percent humidity through the night while hopelessly staring at a broken fan. Yet above all the experiences, sights, and situations that flashed through our heads, one feeling ran through it all as we reflected in that airport - sheer gratitude. In the end, we realized we were simply an inexperienced group of guys from California with nothing but a small idea, and the fact that we had just taken part in such an amazing journey was somewhat beyond our comprehension, most certainly beyond our merit.

Looking back at our first trip to Ghana three years ago, our lasting image from that time was the seemingly hopeless picture of a group of young children, unknowingly swallowing their malaria pills with the contaminated water that is a very source of much of their illness and suffering. In vivid transformation, the lasting image from our past trip was that of a joyful mother feeding her young child a cup of clean water from the newly drilled well in Nso Nyame ye. In the end, we were simply thankful and humbled to have both been part of a trip that has undoubtedly changed our lives, and one that has hopefully also impacted the lives of others in a real and lasting way.



# Well Done Team



Jim Yoon

Jim Yoon, a graduate of UCLA and resident of Southern California, is an environmental engineer by profession, a hiker, writer, traveler, and music lover at heart.



Gregory Powel

Greg Powel graduated from UC Santa Barbara in 2005 with BA degrees in English and Psychology. A resident of the Bay Area, Greg currently works in Mountain View, CA.



Joshua To

Joshua To is the cofounder of BRUTE LABS and thrives on energizing people to work together. Josh loves big ideas and is passionate about the role that design plays in business and humanitarian projects.



Hoon Yoo

Hoon graduated from UCLA in 2005 with a BA in Communication Studies and has been to Ghana on 3 separate occasions. He currently works in the Silicon Valley and resides in Sunnyvale, CA.



Ardy Ghanbar

Ardy Ghanbar, an avid marathoner and aspiring mountaineer with a deep passion for travel and adventure resides in Southern California working in accounting and finance.

# Acknowledgements

## Our thanks goes to...



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Kim Wagner, Ric Kinne, Robert Wassel

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Uncle Fred, Koby, Dr. Margaret Mensah, Mike and Robin, Pioneers Guesthouse Staff

Pioneers is a Christian missions organization working among various people groups throughout the world. Pioneers-Africa is an affiliate organization of Pioneers.

## Partners and Collaborators

All the other organizations involved in this effort, who each played a unique role in making Project Well Done a success:

Daniel Frempong, Director of Beza-Lel Water and Agro Services  
The Community Water and Sanitation Agency  
The Abura-Asebu Kwamankese District Assembly  
The Daily Graphic Ghana  
TV3 Network Limited (TV3 Ghana)

## Project Donors

Those, apart from the Well Done team, whose generous financial contributions made this project possible:

Simon Ha, Lauren Kim, Timothy Hsieh



The BRUTE LABS team who provided the organizational framework and collective spirit from which the Well Done project was originally launched:

Andrew Truong, Erica Liu, James Buyayo, Jason Shafton, and Joshua Knox.

BRUTE LABS is a small group of young people dedicated to action. Focusing on the world around them, they embody the notion that it's much better to try and fail than to have never tried at all. Whether responding to disasters such as Cyclone Nargis in Myanmar by selling limited t-shirts to raise relief funds, or addressing a local need to improve physical education, the BRUTE LABS team strives for ways to tangibly impact the global community.

For more information, visit:

[www.brutelabs.org](http://www.brutelabs.org)



# A Path Forward

During our initial discussions to launch this effort, we arrived at the project name of “Well Done.” To us, this was much more than just a catchy title, but a deliberate and meaningful reflection of our focus at the time - the goal to impact lives through the drilling of one well in one village. This was all new to us, and we felt strongly about actually accomplishing something achievable albeit self-restrained, rather than merely talking about something lofty yet impractical. From first initiating a partnership with Pioneers-Ghana, to over a year of working on the project implementation, to actually traveling to Ghana to visit and commission the completed wells, the experience has flashed before our eyes, and the well (indeed wells) are suddenly, in fact, done. In one sense, this has been an accomplishment of an immediate goal we had set before ourselves and the literal realization of our project name. In a much greater sense, the completion of these wells has felt far more like a beginning than an end.

After all that we’ve experienced and learned, “Well Done” has taken on new meanings for us. We’ve come to realize that the work to be done encompasses far more than merely drilling a well in a single location and leaving the rest to work itself out.

The work just as significantly involves educating and empowering communities to develop holistic, on-the-ground solutions that can be readily implemented and locally sustained. It involves forming meaningful and fruitful partnerships between non-profit organizations, governmental agencies, and private businesses that all play a unique role in developing real-world solutions to a complex problem. It involves utilizing creative media and informative publications to raise awareness of an issue that is far too important to be forgotten or ignored by organizations, policy-makers, and the general public. It can just as meaningfully be performed from our very homes, schools, and offices as it can be abroad and in the field. The work is neither isolated to a single village nor even a single country, but extends out to places like Kamancheli, Mekoda, and anywhere else in the world in which people lack access to clean drinking water. The work is ever-engaging, immensely challenging, and broadly encompassing. Accordingly, project “Well Done,” and the concept that title signifies, is only as engaging, challenging, and encompassing as we are committed to making it. So while our well is drilled and our trip has ended - our pens are ready, our voices intact, and our bags still packed. Thankfully, “Well Done” is really a trip that has only just begun.

To find out where we’re headed and how you can get involved, please visit us at:

[www.brutelabs.org/welldone](http://www.brutelabs.org/welldone)





