

The story of the road to 10 years LTI-free

FIRST VISIT...

The first time Steven Steward came to Papua New Guinea was as a young commercial/salvage diver in 1986. At the time he was a diving supervisor, jack of all trades, cook and head bottle washer for Marine Pacific (United Salvage) Fiji Ltd. During the salvage in the Milne Bay of the Solomon Sea of a Hong Kong owned container ship named Venture Star, he was instructed to take the helicopter – with the pilot obviously – and go to Lae township along the jungle coast to purchase much needed eggs, bacon and all important vegemite and cornflakes. At that time, Lae was a township. He vividly recalls the helicopter landing on the football field of the small wooden structured school. Within seconds they were surrounded by kids, teachers, and the local Gendarme.

They became instant celebrities and had an entourage escort them to the local shop in which they purchased their supplies, yep even the vegemite! There was a lot of hand shaking, and many smiles, grins, and giggles and shouted expressions of “lukim yu bihain, bai yu kom bek” which means “see you later, as you will come back”... How true!

In May of 2015, as the Wheatstone Project in Western Australia ended, HR Department at DIAU Brisbane asked if Steven was interested in going to PNG and work with Dredeco PNG Ltd. How could a guy like Steven refuse an offer like that? A couple of months later Steven landed in Jackson Airport in the capital of PNG Port Moresby (POM), flew onward to Tabubil where the Ok Tedi Mine is located. After a short flight down to the river town of Kiunga, he was greeted by Bob Luke, one of our friendly drivers, and driven to Bige to start what we have thus far accomplished.

A BRIEF INTRODUCTION TO PNG

As most Pacific Islands PNG is the direct result of volcanic action and forms the southwestern edge of the horseshoe curve of what is known

as the Pacific Rim of Fire. PNG is tropical, lush with vibrant fauna and flora, healthy clear turquoises surrounding seas, snaking rivers, creeks, and tributaries in abundance. The climate is hot, humid and is either wet or wetter, cold and damp in the highlands, prone to occasional earthquakes, cyclones, and drought on rare occasions. The country has a vast diversity of 800 tribal cultures, 840 languages all indigenous to PNG, and a wealth of natural resources.

Prior to World War 1, the south side of PNG was governed by Australia, the North by Germany, and the west by Holland. After that bloody war the British Empire took the north from Germany. The Dutch held onto what is now West Papua, or as known in Indonesia Irian Jaya.

The border between PNG and West Papua literally splits the island of PNG in half and the Lower OK Tedi River, on which we dredge, forms a large section of the border. Australia granted PNG independence on the 16th of September 1975. PNG has been self-governed since. PNG remains part of the Commonwealth and has strong ties with both Britain and Australia, with the Queen of England as Head of State due to PNG being in the Commonwealth.

As in many developing countries, the spread of wealth is amongst the few, but meant for the many. The development of the country's infrastructure has been limited not only by its colonial history, but also by outside commercial persuasion and consultation, financial decisions of successive governments, but primarily by the dramatic topography of the country itself. Logistically speaking, PNG is a headache! With its many islands which make up the nation of PNG, to its high steep mountain ranges running through the middle of the main island, to its deep valleys and gullies to its vast wetlands and river systems, the main forms of transport are determined

by sea, rivers or air. Roads play minor roles in the overall infrastructure of the country. Due to this natural topography many clans (large family groups) formed and from these clans the tribes were formed in remote areas of this wilderness. These groups developed their own unique cultures, languages, music, histories, myths and legends, skills for survival. They became hunters and gatherers or farmers of crops for subsistence. It is only in the last 100 years that education became more of a requirement and want as the country developed. That said, many children this day leave school anywhere between the ages of 8 to 16 years. Not by their decision, but by circumstance of birth and financial stress placed on their parents as school is not for free in PNG. Add these factors together, and you have a wonderful naturally rich and diverse country and surrounding islands, a tough and hardy people wanting to learn, work and better their

lives. Their goals have been and are in process of being achieved by the work generated by mining of the natural resources such as copper, gold, growing of crops such as coffee, cocoa beans (some of the best chocolate I have ever eaten is Queen Emma's made in PNG from local cocoa beans), sugar cane, copra, a variety of nutritional vegetables and fruits grown in rich fertile soils, developing the dairy and beef industry. Marine life is in abundance in a healthy sea, and on the reefs of the main island and islands of PNG. Steven can vouch for that first-hand, having spent many hours underwater here from 1986 to 1990 both for work and pleasure diving. These days he snorkels whenever he's in POM.

A REMOTE PROJECT

As you can see from the photograph, the project team operates in an extremely remote location and therefore they must be

As with all safety plans, it started with the basic driving force behind it: the team!



The Pacific Rim of Fire



Steven Steward, with whom it all began



Star Mountains, a mountain range in the inlands of PNG





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as self-sufficient and reliant as possible in all aspects of the project. Those aspects being able to provide medical support and treatment, maintain sufficient supplies of water and food, toiletries, tools and equipment, spare parts, stores of consumables, lubricants and grease, hydrocarbons, paints, and an abundance of PPE and medical supplies. The operation has a variety of plant equipment which all works in supporting the cutter suction dredger Cap Martin. This is the all-consuming, yet productive 'puk puk' (crocodile) that requires being watered and feed on an hourly and daily basis. Ordering and purchasing off all required equipment and consumables is never ending. For the project team to stay on top of it, they work up to 6 months ahead. With some equipment they plan for items to be on site 12-18 months ahead, so when they need them, they are here. There is no "stop and shop" here!

This isolation is the main factor that required the Project QHSES Department to develop a safety system that not only considered all that has been written above, but go beyond that, and rethink the whole safety process from the fact that cultural backgrounds on site are broadly different, with many talents, skill sets and attitudes, the fact that training is a must but requires adjustment so all can learn and be safe in the workplace, the fact there are many languages spoken on site. The national languages of PNG are English, Pidgin and Motu. The QHSES team had to find a way to communicate the change of safety management to the vastly varied and different workforce. The only thing that was common to all was the fact the 'puk puk' needed to be operating 24/7. So, they began as with all safety plans, they started with the basic driving force behind it: the team.

INTRODUCTION TO THE SAFETY TEAM

QHSES TEAM

Senior Safety officer Jim Kerua was born and raised in the Western Highlands of PNG. He started life as a cheeky fellow and still maintains his dry and wry sense of humour. Jim did very well in school and became a teacher of math and general subjects, later a Headmaster. He left the education system and moved into the QHSES industry 10 years ago. He initially worked in mine safety and then joined Dredecoco eight years ago.

Safety Officer Augustin Beteop was born and raised in Kiunga Western Province. He started life as a content kid with a keen sense of humour which he puts into play just at the right time. Augustin did very well in school and graduated from the University of PNG. He worked in the finance world for several years and made the move into the QHSES industry in 2015. He initially worked on onshore drill rigs in the interior of PNG. He joined Dredecoco four years ago.

QHSES Manager Steven Steward was born in Khartoum Sudan. Aged 5, he went to school at Ikeja Village in Lagos Nigeria. At 10 years old he was sent to boarding school in England, left school aged 18 with standard O & A levels, got apprenticeship in 1978 with a salvage company based in the Caribbean, spent the next 30 years earning a living as a diver in salvage, onshore and offshore industry, worked up to Diving Supervisor, then to Diving Operations Manager. In 2008 he hung up his 'flippers', moved into marine safety within the dredging industry. He joined Dredecoco PNG Ltd as QHSES Manager in 2015.

PART OF THE DREDECO SAFETY TEAM IS THE PROJECT CLINIC

Doctor Daryl Roberts was born and raised in Eastern Highlands. He did very well at school and university and graduated from medical university. He initially worked at a hospital in POM, decided that he wanted to work in remote clinics spread throughout the Highlands and joined the project seven years ago. He has a unique bedside manner based around no nonsense action with a hint of dry humour which one must witness to appreciate it.

Doctor Solomon Vijufa was born and raised in Eastern Highlands. He did extremely well at school and went on to graduate from medical university. He has worked in various clinics and hospitals in PNG. He joined the project clinic five years ago. He is the personification of the approachable country Doctor.

WORKING CLOSELY WITH THE SAFETY TEAM IS DREDECO HR DEPARTMENT

HR Officer Keith Hames was born and raised in East Sepik and moved to Western Province at a young age and made it his home. Keith has been with the project since conception, over 20 years.

HR Administrator Ms. Senigel Digali was born and raised in Kiunga and joined Dredecoco several months ago. She brings youth, vitality along with strong administrative and organizational skills to the team.



The project team operates in an extremely remote location and therefore they must be as self-sufficient and reliant as possible in all aspects of the project

How we achieved what we have and what we envisage for the future of safety on site...

Building a conscious safety culture is not an easy task anywhere in the world. Due to the fact that we as humans are all different, we think differently, our likes and dislikes are different, we approach a job in different ways, our mindsets are different and each of us have our own perceptions of what is dangerous and what is not. On arrival to site, Steven decided what has gone before is history and what done henceforth, must have buy-in from all personnel on site. This makes the employees stakeholders by their very acceptance and input to the safety culture on site. So how to do this? There is no wrong or absolute right way; there is only the way that works in any given working environment. Drawing on his many years of diving the key principle to any diving job was KISS, 'keep it simple safe'. Firstly, they spent a lot of time with each workstation: observing, taking notes, speaking to those doing the work. Basically, assessing what was done and why it was done that way or the other way. During these periods a lot was revealed: some good, some bad, and some was stopped and rectified straight away. Being visible, approachable, and playing an active part of the process by showing how to write a task orientated JSA, people opened. A basic trust was established. Trust is a powerful tool. With trust comes communication. From communication comes ideas and transfer of knowledge. Without the established trust, progress would never have been made. Now

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that trust shall be maintained. It requires consistency in the approach to rectify a negative situation. The best approach is stoic, just deal with the facts. From inquiring about facts, better results will come about, without fuss and fanfare. The risk assessments were written up with the involved of the people at the workstations and the immediate supervisors. They should reflect what truly takes place at the workstation. Next step was to develop the safe working procedures for each of the workstations. The risk assessments, JSA's and safe working procedures all are live documents. Over the years their contents was amended and their alterations of content get communicated to end users through pre-starts and toolboxes. Changes in laws and in company policies are among the key driving forces in our changing project safety documentation. The challenge to ensure we comply with international laws, laws of PNG, company policy and client policy. Through developing the legal compliance register, we ensure all safety working documentation complies with the laws. The extraction industries in PNG are well on track in becoming more professional and accountable. Oversight and regular inspections by MRA (Mining Resources Authority of PNG) and DLIR (Department of Labour and Industrial Relations) are there to ensure that the employers act with highest standards of duty of care and that proper trainings are organized that support the



Practical sessions are extremely important

developing of skills and competences of the PNG workforce on the project. Over the years, Dredecoco developed a well working and respectful relationship with them where trust is key, as we do what we say. We improved the pre-start and the Take 5 process and aligned them to each work area as an engine room pre-start is vastly different to that of reclamation. From the risk assessments we created the training matrix as now we knew what each area required in the form of training and why. This also created the drill training matrix for all workstations. Every document developed was communicated to the workforce three times over an 18-month period. Each workstation now has a drill matrix, so

each workstation conducts regular drills on a weekly and monthly basis, and yes, we conducted walk through drills for the first year till the national skippers and foreman knew what to do and why and they now run their own drills which we witness as required. Has it taken time yes, has it been worth the effort? Absolutely! Is it over? No. No we are moving into improving what we have accomplished and elevating the training of the nationals as many have been on the project over 10 years. Their hands on knowledge is priceless to the project. We have recently implemented the 5 Year training program which is a pathway towards taking on more responsibilities in the future.

“A team to be proud of its accomplishments!”

10 Years of LTI free operations for all Dredecoco workstations at Bige Ok Tedi site is a fantastic accomplishment. It's a result for the whole team to be very proud of.

For 10 years our employees from the local communities can return home unharmed at the end of their working day. Our fly-in fly-out personnel, both from other parts of Papua New Guinea and from abroad, travel back home free of injury at the end of their swing. I cannot emphasize enough the importance of this. We all are someone's family, and as a son, daughter, mother or a father, brother or sister, our wellbeing and safety at the workplace matters to our families.



Cap Martin (dredger) and Kwiape (work boat)

Seldom do we have the opportunity in our industry to be part of a project as long running as this one. During this time which spans over two decades, Dredecoco has removed over 240 million cubic meters of river sediment from the Ok Tedi River in the Western Province of Papua Guinea. A vast area of what once was rainforest die-back area, is now being rehabilitated for the local communities thanks to the committed determination of our client OTML. Through the professionalism of our survey team, the reclamation crews and the OTML earthmoving department, both the East Bank and West Bank are newly established.

The past 10 years have been LTI-free, but they also witnessed many milestones, which took many working hours to accomplish. In this decade Cap Martin dredged some 100,000,000 cubic meters of river sediment. This strongly reduces the seasonal flooding of the lands on which the river communities live. By the middle of 2019 we completed a major upgrade of Cap Martin with the help of our Cap Martin crew, the workshop team, and our Technical Department in Belgium. What a fantastic production Cap Martin delivers after so many years of service. But most of all, and because it matters most, it's done safely. That is our goal.

During the first half of 2020 we mobilized the floating booster station from Singapore to Port Moresby, and then some 900 kilometres up the Fly River through the rainforest. I'm proud to say it's the best-performing booster station I've ever seen. Our booster team's focus on safety and production is world class.

As technologies evolve, Dredecoco ramped up its efforts to train local personnel. We are happy to see they too develop their competencies and take on more responsibilities as the years pass.

A lot has happened over the past 10 LTI-free years and we could not have done without the dedicated support and perseverance from our QHSES department and medical team on

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site. The energy with which they commit to continuously train all workstation personnel to work safely and look after their health and wellbeing, is truly an inspiration.

We all have the honour of being part of this wonderful story in which the health of a river system so vital to the community's sustainability is improved, and the beauty of the rainforest is restored. Together with OTML, let us write together the next chapter in this story here at Bige, free of all injury, for another 10 years.