



**The Road to Remediation** My name is James Hatcher and I am not an environmentalist. This is the story of how an innovative new product line was developed for the purpose of removing hydrocarbon contamination from our planet's soil and water. This book was inspired by my partner Michelle Cox who made the statement "You need to write a book to explain the Plutus vision and how it can help the world." You should call it "The Road to Remediation".



#### **Plutus Mission Statement**

*To strive to provide the best solutions available to keep our world environment clean, safe, and happy.*

#### **Plutus Vision**

*It is better to have an infinite existence and strive to leave our world a better place than we inherited rather than to have a finite existence of taking the best the world can give us and leave nothing behind.*

### **Chapter One: How the journey began**

As a child growing up in the shadow of the Great Smoky Mountains of East Tennessee it never occurred to me that one day, I would leave the comfort and security of our small family farm and travel the world. Before my travels began, I suffered the agony and life changing effects of Polio. I was diagnosed with Polio when I was six years old and suffered through several operations on my leg followed by crutches, braces and years of therapy. I remember playing in the creek and watching my dog digging in a sandbar. My friends and I helped him dig and soon discovered half of a rotten dead calf buried in the sand. I later learned that Polio possibly may be often a waterborne disease. Makes you wonder doesn't it.

Fast forward forty years and I meet a man, Ken Laird, from Mississippi who was destined to become a very close friend. We met on a real estate development project. He was a management consultant and I was the planning and design consultant appointed by the Federal Bankruptcy Judge. When our services were completed he asked me to look at a project he was involved with in Pascagoula, Mississippi. When we arrived in Pascagoula he showed me a pail of what looked like antifreeze and explained that it was for cleaning up crude oil storage tanks. WHAT? I knew less than nothing about crude oil or oil wells in general. Ken was a distributor for a small chemical company that made the stuff and he wanted me to help him develop the market for it. I had been in the real estate and development business so he thought I must be good at market development. What he did not know was that when I developed a project I always had another real estate broker to handle the sales for me. To make a long story short...the guy that produced the chemical decided to retire and to close the business. I asked if he would sell us production rights on a commission basis and he said "NO. It's my business and I don't want anyone else to mess up what I developed." I guess he wanted to take it with him. Ken and I had no idea what was in it or how he made it.

On that sour note I returned home but did not stop thinking about the prospects. How do you make a product to clean up the residual contamination from a substance you know absolutely nothing about. Research!

I learned that an environmental trade show was planned in a few months later in Memphis so I decided to head west to Memphis I see what I could learn. At the show I looked at booth after booth and listened to the conversations. I tried to keep my mouth shut so that I would not appear as ignorant about the industry as I actually was.

The vendors were discussing submersibles, Christmas trees and risers, emulsions and downhole pressures as well as blowout preventers and capillary injection ports and of course system remediation issues. I felt like a poodle at a dog fight...completely lost and out of place. Then I saw a book seller. Now I was getting somewhere. There were books on every conceivable subject pertaining to oil production but nothing on remediation. I have often heard that to be successful you must find a need and fill it. I decided then and there to do my absolute best to fill that need.

## **Chapter Two: Into my Lab**

The only problem right then is that I didn't have a lab. I began to read and study everything I could find relating to the remediation of hydrocarbon contamination. The existing solutions were readily apparent, burning or windrowing and microbial application. The wax and sludge residual buildup in crude oil storage tanks came from wax, paraffin, that precipitated or "dropped out" of crude oil when the oil temperature or pressure on the oil "system" was decreased. Crude oil comes out of the oil bearing rock formation and flows into the well casing through perforations. The general bottom hole temperature in most wells varies from about 128 to 190 degrees Fahrenheit and rapidly cools when it enters the well. Pressure is extremely high in the oil bearing rock formations and immediately undergoes an instantaneous change from formation pressure to only atmospheric pressure. I have seen freshly extracted formation core samples start to "sweat" oil as soon as they were recovered from the well. The core sample will often secrete a much larger volume of oil than the volume of the stone core. This is an example of how much pressure is applied during the eons long formation of the oil bearing stone layer. As stated above, both temperature and pressure reduction occurs instantly and the wax begins to fall out of solution in the liquid phase of the oil and then wax crystals occur. The crystals combine into a mass much like candle wax and adheres to the surfaces of any metals with which it comes in contact specifically casing and tubing walls, pump rods and submersible pumps. When the crude oil is pumped out of the well and into the storage tank the pressure and temperature again drops and precipitation continues and creates a wax or sludge layer in the bottom of the tank. This layer often contains rust particles, sand or other "fines" from the drilling and production process. The sludge layer slowly increases in thickness, hardens with time and most likely will require manual labor to enter and dig out the sludge often also requiring a hot oil circulation treatment through a heater treater unit to partially soften the sludge for easier removal. Then the question arises "what to do with the excavated wax" which is classified as hazardous material. You cannot legally dump or bury it without criminal penalty and fines. You can take it to an approved "burn facility" and they will incinerate it but that operation involves a lot of labor and expense.

Another situation that I discovered was the contamination from the drilling process... leaks, drips and spills that routinely occur in the oil production industry. You change a hose and a small oil spill occurs. You perform a workover to repair downhole components such as a rod or pump and a small spill occurs. Valves wear and a leak occurs, and on, and on and on. The cuttings along with drilling mud and water from the drilling process are blown into a pit. The possibilities for accidental contamination are endless.

I learned that there were basically two processes for remediation of hydrocarbon contamination soil regardless of how that contamination originated. The first was windrowing which is the process whereby contaminated soil is removed from the contaminated site, taken to a different location either on the same property or to a soil storage site or facility. The contaminated soil is then unloaded in "windrows" and usually covered with a tarp or plastic sheet and hopefully the aging process and Mother Nature will reduce the severity of the hydrocarbon contamination. It is a long and expensive process.

The second process was microbial treatment which is generally an in-situ application of a commercially engineered microbial solution that is mixed with a very large volume of water. This treatment process efficiency is dependent upon time of application and is hampered by pH and depth of the polluted soil and also by temperature and weather conditions. Microbial treatment as well as windrowing is marginally effective at best. Some jurisdictions do not allow "alien" microbes for fear the addition of the commercial microbes might upset the balance of nature by competing with or overwhelming the resident microbes. It was readily apparent to me that a different approach was required.

My idea was to create a product that would work, be safe for the person that applied the product and that also would be safe for the environment. How to do that...I had no idea.

I had no lab but I had a back patio and an unfinished basement so I improvised. I spent the next five years working on a combination of any and all ingredients that I thought might work effectively to eliminate the problem. I had an ice cream maker with a plastic bucket that would serve as my "mix" tank. I bought some test tubes and a tube stand from a school supply store and secured basic lab chemicals from the same store. Every day that the weather permitted found me on the patio mixing chemicals. I carefully logged every chemical formula so that I would not repeat the same failure. It was five long frustrating years of trial and error until one morning I went to the patio for my early morning first cup of coffee and I noticed that one of the test tubes from my efforts the day before showed a distinct layering of different colors. I could not believe it. Something had finally worked. I had no idea what it was but definitely something had changed. The top layer was black, the center layer was almost clear and the bottom was a murky brown. I checked the mix ratio of ingredients then siphoned samples from each layer with a pipette. I located a student microscope that was in the basement, came back to the patio and prepared slides of samples from each layer. I did not know what I was looking at or for but I was looking.

The first layer looked like crude oil and felt like crude oil. I could not smell it because for years when I was in the land surveying business I worked daily with ammonia in my blueprint process and my sense of smell was virtually destroyed. Under the microscope the slide of the first layer looked exactly like the oil I had used in the test. The center level slide appeared to be murky water and the slide of the bottom line appeared to be silt. That was great but the test was not on wax. The next step was to prepare more product and do a wax test. I carefully replicated the first product and looked for the paraffin. I had brought a sample of crude oil and paraffin from the same well when I came home from Mississippi five years earlier. The wax was sealed in a jar and had not excessively hardened. I put a walnut sized ball of wax in a quart jar and covered it with the new product, stirred it vigorously then set it on a shelf in the basement to "let it work." The next morning I checked it and nothing had changed. What to do now? Out of desperation I added some of the crude oil, again stirred it, then headed upstairs for the coffee pot. I will never forget sitting on the patio wondering what I could do next. After I finished my coffee I went back to the basement and the jar appeared to be the same except the mix of oil and product had separated. When I stirred it again I realized there was no wax ball. I poured the mix through a strainer into another jar to retrieve the wax. The wax was gone and I could not visually detect much difference in the oil and product level. I carefully decanted the oil and again repeated the test process using the same volume of wax without any product. To my surprise the same thing happened as before except this time the treated oil picked up the wax without more product and I realized that treated oil will hold more wax than it originally contained. How did that happen?

The next step was to take the product remaining from the test and try something new. I took a restaurant pan, filled it with soil and added a small amount of the crude oil and a small amount of gasoline. Then I thoroughly mixed everything together and sprayed the remaining product on the soil. I put the pan under an old Dodge Ram Charger that I was planning to restore. I got busy and simply forgot about it because my focus was on wax removal. Weeks later I remembered the pan and when I checked it I saw what looked like clean dirt so I tried to ignite it but it would not burn. I deduced that the mix was not flammable but I was so focused on the wax problem it never occurred to me that it had value as a soil remediation agent. That fact would slap me in the face later.

About this time I was in Memphis meeting with a midstream supply company that delivered fuel and provisions to towboat crews on the river and I met a man who wanted to introduce me to a friend of his. The guy he wanted me to meet was a

man named David Boyd. David was phasing out a chemical manufacturing company, CILLCO, and my acquaintance thought David might give me some useful pointers. He set up a meeting for me and I met David for lunch near his home in Jackson, Tennessee. When we met he extended his hand and said "Hello I'm DB," We talked and he patiently listened to my story then smiled and told me that he thought I had a great product, pulled out his checkbook and then handed me a check for \$25,000 and told me when that I could pay him back when my time was right. DB had some stainless steel mix tanks that he no longer needed so he told me that I should bring a trailer and pick them up because he needed to clean out the building. He instantly became a great friend and ally. I was able to draw on his experience which enabled me to avoid pitfalls that might have ended my road to remediation. DB continues to be my sounding board and is never too busy to listen, even when he is in the duck hunting blind. DB, benefactor, instructor and one of best friends.

I heard from a business friend that a man in Maryville, Tennessee, was in the oil business so I called the guy and told him I would like to visit to talk about the oil business. His name was Russell Perry. He told me that he had drilled wells all over the world and had the pictures and photos to prove it. When I told him what I had he laughed and said "a product like that does not exist so let me see you prove it." He went into his garage and came back with oil and wax from one of his wells in Kentucky. I did a demo for him and told him the wax will never come back out. He laughed and put the sample in the freezer then said "We'll see about that." He called me the next morning at about 8 AM literally bouncing off the wall. He had taken the frozen sample from the freezer and the morning sun had melted the sample. There was no wax. He was totally amazed and wanted me to come back over as soon as possible. An hour later we were drinking coffee in his kitchen and he was planning what to do next. He was sure this product could revolutionize the oil industry. He asked the name of this oil remediation product and I answered PRA which stands for Paraffin Removal Agent. I later changed the name to Petroleum Remediation Additive when I learned what applications PRA was capable of.

Russell had been married to a lady from Austria and was a good friend to the Energy Minister of Austria. Three months later we were in Abu Dhabi at the 1998 annual ADIPEX oil conference and we were sponsored by Princess Shaka Al Mascari of the United Arab Emirates. **My how my life was about to change** from wading through creeks and briar patches in the surveying business to hanging out and having lunch with Oil Ministers and Royalty. The conference was a success for us and opened some doors

Back home from the conference I joined the Tennessee Oil & Gas Association in an effort to increase our sales. We treated Russell's wells as needed and several other smaller oil producers wells. It soon became apparent that the need existed for a product that could clean up the drips, leaks and spills from everyday oil production activities. The light came on and I remembered the restaurant pan experiment. Back to the garden patio lab and we developed E-Safe Environmentally Safe Cleaner. No sooner than we introduced E-Safe I got a call from one of the guys in Kentucky that had tried PRA. He had a cuttings pit that was covered with oil so he covered it with dirt before an onsite EPA inspection. It had rained the night before the inspection and he had been caught. The inspector gave him thirty days to correct the situation or he would be fined and his operation would be shut down at that site. I took him thirty gallons of the new and as yet unnamed product and we thoroughly soaked the area. When the inspector came they took core samples to the depth of the original pit and found NO contamination. E-Safe was now field tested and confirmed.

## Chapter Two: Out of the oil field

A short time later I received a call from a marina operator in Morristown, Tennessee. A new dock hand has mistakenly put fuel in the fresh water tank on a large houseboat. The operator explained that he had tried everything anybody could come up with to clean that tank with no good result. A mutual friend told him that I might have a solution so he called. I treated the tank with E-Safe and repeated the treatment two more times. The tank was now clean with no bad taste in the water. The operator could not believe that I was pumping the treatment water into the harbor which was covered with the sheen commonly associated with marinas. The sheen is the result of fueling drips and spills. The treatment water was slowly removing the sheen from the water. A few weeks later I got a call from the lady that headed up the Tennessee Valley Authority Clean Marina Authority. "How did you remove the sheen at the marina where you were working on the houseboat" she asked. News travels fast sometimes. Just "Sheen Magic" I laughed. She asked if she could order twelve cases of quart bottles with sprayers of Sheen Magic. I told her that she certainly could but that I would be tied up for a few weeks before I could get her order ready. She never asked the price but said to just call when it was ready and give her the price. She would meet me with the check. The problem was I had no Sheen Magic product to give her. Two weeks later the new product was ready complete with Safety Data Sheets and a new label. Instantly I had a new market as Sheen Magic usage became a requirement for receiving the Clean Marina Certificate and flag. Sometimes you just get lucky. OR the harder you work the luckier you become.

I decided to submit both E-Safe and Sheen Magic to the EPA for acceptance by the EPA National Contingency Plan National Product Schedule. Both products were accepted as Surface Washing Agents. E-Safe as SW 33 and Sheen Magic as SW 34. It is amazing how things happen. About the same time I was working on the new sheen application I got a call from a friend who had been talking with an acquaintance in Felixstowe, England. The chap in England had lived a few years in Knoxville thirty minutes from our home and was interested in our products. He worked with a company involved with the oil industry in Europe. I arranged a visit to Felixstowe and learned that the chap, Paul, worked for a company that unloaded bilge water from ships at the port. The water was contaminated with oil, diesel and various other hydrocarbon compounds. The water had to be processed, the oil removed and the water cleaned via a complex treatment and multistage filter system before being transported from the dock for disposal at the municipal water treatment facility. When we arrived at the dock I learned that bilge tanks hold everything liquid connected for disposal except sewage. The discharge port from the bilge tank was a very small diameter line that was usually clogged with sludge and debris. The bilge was destined to be offloaded into a 11000 liter tanker truck that never left the dock, The treatment facility was in fact located on the dock. We worked from daylight to lunch time without getting any flow to the tanker despite the best efforts on the tanker's pumping system. The Captain of the ship decided we should have lunch with him then continue the evac process. I suggested that we pour the five gallons of PRA, that I had carried with me, into the bilge tank and let it work during lunch. After about a forty five minute lunch break we went back down and turned on the tanker's pump. The flow immediately began because the PRA had softened the sludge and allowed a very rapid transfer of the bilge. The company had a water processing site on the dock. The normal treatment protocol was to add one liter of demulsifier per thousand liters water and heat the water to 80 degrees Celsius, 176 degrees Fahrenheit, while being circulated through a multi tank system. The entire process normally took at least two days before discharge through a complex four stage oil and water separator system. The oil had to be 50 percent free of water to allow them to be able to sell the oil for powerplant fuel. I suggested we circulate the bilge at ambient temperature until morning and test for quality. The company Paul worked for had a spectrometer that showed the PRA treated water was clean enough to discharge and the oil had less than one percent water. I was informed that the company normally had to use a demulsifier to cause the oil to separate from the water. With PRA treatment no emulsifier was required and the filter process time was cut in half. The ratio of PRA to their demulsifier was 1 to 4. As the demulsifier cost was essentially the same per volume the cost was cut to a quarter of the previous expense. Based on that trial and result I developed another new product expressly for that operation, Bilge Brite. Treating that bilge problem started me thinking about how to clean up the water in the ground. Well water is getting worse and worse because of water runoff from oil production activities, industrial waste, traffic accidents and simply washing the family vehicle in the driveway. While I was in the land surveying business I had a sampling contract with a monitoring well treatment company. Monitoring wells are shallow pipes set in the ground and extend into the underlying aquifer. The top is concrete enclosed with a small locking steel cap. A water sample is collected from the well on a regular schedule and analyzed to determine the degree of hydrocarbon contamination in the underground water. The wells are located primarily at convenience stores and truck stops as well as locations with runoff contamination such as at equipment storage yards or large parking lots. I decided to formulate a new product to help control the ground water contamination. The new product was Monitoring Well Additive. We found that a quart of MWA poured directly into the well on a routine basis would attack and destroy the polluting hydrocarbons. Just trying to keep Mother Nature happy and healthy. We submitted all the required data necessary to receive EPA Listing but the application was rejected because we were told that as MWA was to be used in a "closed" system therefore Listing was not required.

We constantly seek new ideas for additional contamination problems and strive to develop new solutions such as when we were recently contacted concerning a salt problem. An oil field in Mexico located near to the coastline was producing large amounts of salt water in their oil. It was obvious that sea water had penetrated the oil formation and was pressurizing the oil field as oil was extracted. The void in the sandstone formation that contained the oil was gaining water as oil was lost to production. The wells were all very shallow and many had been abandoned because of the salt incursion. Our recommendation was to inject PRA into the well. The PRA would cause the oil/water emulsion to break. The oil would float on top of the heavy salt water. A suction line would be dropped downhole with the intake substantially lower than the oil level then the water could be pumped off into drying beds which would be plastic or rubber lined. At the same time the oil was being pumped via an additional line into storage tanks or into pipelines. The salt water in the beds would evaporate. No new products were required but a new application was developed for a plaguing problem. The road to remediation continues. As new problems arise we constantly strive to provide solutions to conquer those problems.

### **Chapter Three: Climate change causes and solutions**

Listening to the news channels will cause you to believe that global warming is responsible for adverse climate change and the we mere mortals are totally to blame. Obviously global warming is the main cause of climate change but we are not totally responsible. Existing geologic evidence shows that the earth has gone through numerous climatic shifts. Michelle and I were in Ecuador flying south from Quito to an oilfield in the rainforest when we flew almost over CotopaxiStrato volcano which is the most active volcano in Ecuador. We were close enough to see the smoke and fumes billowing out of the chamber. That sight vividly illustrated to us the power and magnitude of pollution from a quiet volcano and caused me to consider the environmental impact of an erupting volcano. A volcanic eruption and annual major forest fires dump more ash, dust, sulfur and associated pollutants into the atmosphere that all the hydrocarbon fueled vehicles combined. Human contribution to air and water contamination is another story. Industrial and oil production, agricultural and personal activities today contribute staggering volumes of hydrocarbons into the environment. Classic examples are vehicle exhaust fumes, runoff of fertilizers and pesticides from farming operations as well as from home lawns and gardens. Every time a person washes their car an amazing amount of hydrocarbons are washed down the storm drain or into the soil of their lawn. Each time a gardener sprays weed killer in the fence row or sprays bug killer on their garden again the contaminants are released into the air, soil or water. Most fertilizers and pesticides are hydrocarbon based formulations and when allowed to enter the waterways they accelerate an increase in algae bloom which depletes the oxygen supply to aquatic life causing die-offs and oceanic dead spots. An application of E-Safe into drainage ditches and containment lagoons will greatly reduce the pollutant impact. This same treatment procedure is effective in waterways contaminated by the release of dyes and industrial chemicals including acids and of course hydrocarbons.

Oil production, storage and transportation drips, leaks and spills, traffic accidents, runoff from parking and storage lots, fueling spills, and routinely washing the family automobile, contributes to the contamination problem and the list is endless. Soot generation from energy production by coal and oil fed powerplants darken the sky and blot out the horizon as well as the sunlight. As of now we do not have an affordable solution to coal fired smokestacks except to inject a mist of E-Safe into a scrubber unit or directly into the barrel of the stack through a misting nozzle. All the above listed contamination situations are direct contributors to climate change.

Plutus products, E-Safe and Sheen Magic, either completely eliminate hydrocarbon chains or convert all polluting hydrocarbon compounds to shortened chain molecules which, in essence, are non-polluting short chain intermediate metabolites that are consumed by resident microbes in the soil and water no matter if they result from the above listed sources or from rainfall residuals. When the intermediate metabolites are consumed there is no appreciable increase in carbon dioxide release. Plutus products break the surface tension of oil in water emulsions allowing the hydrocarbons to migrate to the surface of putrid soil environments. Free hydrocarbons are somewhat biologically remediated by resident microbes during the upward migration to the surface. A great value of our remediation system is that it will work in aerobic or anaerobic conditions such as in putrefied or rotten mud or swamp conditions where oxygen is depleted and microbes do not exist or are in limited numbers and limited species. All Plutus products are infinitely soluble in all water, be it fresh, salt or brackish water and spread rapidly throughout the water system be it a pond or tank, lake or stream with no harm to aquatic life or vegetation.

E-Safe is our strongest remediation product and may be used on all industrial painted surfaces, concrete, asphalt, heavy equipment and engine components, metals except polished aluminum and clearcoat surfaces, also to clean glass, valves, railings, walkways, fueling equipment and areas, to not only remove hydrocarbons but also soot residue and most molds and mildew, and light paint overspray.

### **Chapter Four: The world called and we answered**

The world is covered with remediation problems. My second journey to England came as the result of my niece, Jamie, introducing me to David Skins, her boyfriend, who was a young golfer on a golf scholarship from England to the University of Tennessee. I went to see him in a college tournament in South Carolina where I met a friend of his father. The fellow was from Lincolnshire, England, and I later learned he came purposely to meet me because he had learned from David's father

about our products. Not long afterward I was in Lincolnshire signing an agreement with him and his partner Wayne Manton to be a distributor for our products. Wayne's company is PLUTUS Environmental Group (PEG). PEG led us to Qatar in our first serious attempt to enter the market in that part of the world.

In Qatar we were tasked with solving the problem of eliminating Strontium and Boron scale formations in their wells caused by the pollutants in their water flood operation. The Dukhan Oilfield laboratory proved that a 5ppm application of PRA injected into the water flood stream would eliminate the scale formation.

From Wayne's association I met two men in Bucharest, Romania and as it turned out one of the men also had dual citizenship in Israel and the other was a retired Israeli Brigadier General. They became our newest distributorship, PLUTUS International. In a heartbeat I had become an international company, albeit a very small international company. The next major event was to go to Nigeria for PEG to meet with a company that was trying to get a remediation product supply contract for a very large UN mandated remediation project in the Ogoni Delta. The new distributorship, Barcopet, Ltd., was formed by Charles Amoya. In a few "short" years I went from trying to peddle my products to small local oil companies and marina operators to signing international distributors in the UK, EU, Mid-East and Africa.

It is 2021, despite the Covid Pandemic, negotiations begin in several areas of the world notably Africa and Asia. Barcopet has been in negotiations with companies in Uganda, Equatorial Guinea and South Sudan as well as a very large international Oilfield Services company. PEG is in negotiations with a petroleum company in Turkey that is tasked by their government to solve some lingering remediation problems and to get the Turkish Oil Industry back on its feet...fast. PEG had also been contacted by a large oil company headquartered in Kuala Lumpur, Malaysia. With 2021 coming to a close the future looked good for 2022 and we were ready to charge full speed into this new year. All the while the worldwide Covid epidemic was wreaking havoc on the oil production industry.

While in Nigeria in 2018 I met a microbiologist, Sigsimund Iheagwam, who had previously been Environmental Director for both SHELL and TotalEnergies, and was now Professor of the Microbiology Department at Hezekiah University in Nigeria. We developed a close working relationship with the professor who I call Sigis and who calls me Poppa Jim. Sigis is a highly respected microbiologist and he began testing E-Safe and Sheen Magic on hydrocarbon contaminated soil and water.

The Nigeria Ogoni Delta is perhaps the most hydrocarbon polluted area in the world and is practically Sigis back yard so naturally he turned his attention to a comprehensive laboratory evaluation of the effect of E-Safe on hydrocarbon soil. The Report has just been completed and is being published in the top international environmental journals. The results are outstanding and conclusively prove E-Safe completely destroys and eliminates all unwanted hydrocarbon chains and compounds. Thank you for your diligent and profound research Professor Sigis.

I have heard the statement that the path to improvement is often straight but the road to successful completion is normally twisted and turning with many curves and blind alleys. My venture into remediation is no exception to that statement. It has been a long, tiring and winding road to this point but I would not have missed it for anything imaginable. Thank you Michelle for the last decade of my journey and for always being my strong right arm and my inspiration.

And thank you for taking the time to read and learn our "Road to Remediation."