Transcription of Honored Alumni Lecture 2014 by Greg Hebertson

Can everyone hear me all right? Is the mike working well? Thanks Tom, thank you Dean Sommerfeldt, I really appreciate the opportunity to come back to BYU. Tom mentioned that oil is running through my veins; that is definitely true, but BYU is deep in my veins as well. I’m very proud to be here, I appreciate the students for coming today, the faculty, staff, and friends of the college and the university. I’m very humbled to receive this award today. I can honestly say to you that as a very average college student, and some of the professors can attest to that, I never believed or dreamt that something that something would come to me in this fashion.

To begin, let me thank my professors from the college, the Department of Geological Sciences, my thesis committee, Dr. Morris, Dr. Kowallis, Dr. Paul Nixon, as well as other faculty and friends—many of whom are here today—that I shared some of the best years of my life. And then finally my family, who is also here. Finally, I thank Mindy, my wife, partner, and eternal companion, who has been a best friend for me over the last twenty-five years. At the time of her graduation she was the youngest person to graduate from the prestigious BYU Department of Accountancy, and despite her own substantial individual achievement, she sacrificed much to help me get through graduate school, edit my thesis and hand it off (before computers), my illustrations, and, of course, raise our two children. She also spent many nights alone while I collected nearly two million miles of frequent flier miles on various airlines. So the honor I receive today I share with her, because I wouldn’t be able to be here without her. How a rock-licking geologist won the heart of somebody away from all of those MBAs is one of life’s greatest mysteries, so thank you to everyone for being here today, you’ve all truly influenced my life, and I am grateful for that.

So we are here today to talk about some things I have learned and how I might be able to help you in your journey through your life. As I thought about my remarks for today, a lot of different things came into my mind. I thought, well, maybe I should talk technically, or maybe I should talk about some of the projects that I’ve worked on, or maybe just say thank you and sit down. So I will bring a little bit of all of that together, hopefully.

The title of my remarks I took from the poem “Invictus” by William Henry, because I think so much about our life is about choosing your own destiny and making your own destiny happen, whether that’s yourself as an individual, a family, or your careers or spiritually, you know we are given this life to get choices and many of the choices that we make determine the outcome of our destiny. It’s about doing something. It’s about, as the poem says, “Be[ing] the captain of your soul and be[ing] the master of your fate.” All of the education that you will receive and your family support should be able to help you do that.

What I am going to talk about a little bit is how I have incorporated those thoughts into my own life and my own career. I’m going to talk a little bit about some of those
projects that I’ve been involved in throughout my career where the companies that I work for and the people that I work with had to be the master of their own fate, because, you know, the oil and gas business is, like many other businesses, in the promotion business. It’s often been said that it is easier to find oil and gas than it is to make money on it, so mastering your fate comes down to working, collaborating with people, and making difficult projects economic, at the end of the day. The last section of my remarks will focus on some things that I’ve learned that could, perhaps, help you in your careers.

So let’s start a little bit about my personal experiences. For most of my life I have really wanted to work in the oil and gas industry, as Tom mentioned. My father worked for Mobile Oil Corporation. He was an executive with MRS corporation for more than thirty years. As Tom mentioned, I was born in Shreveport, Louisiana, lived in New York. I lived in Houston, Texas and Tulsa, Oklahoma throughout my life. All places that had a very strong oil industry influence.

Up on the board, there’s a graph of oil price both in real terms and inflation terms. As a formative teenager living in Tulsa in the early 1980s, Tulsa was a very vibrant, sophisticated, and wealthy city. It truly was the oil capital of the world, and it was experiencing a boom that had never been seen before, as you can see by the graph. Then came 1986, and oil prices dropped precipitously, hiring of geologist at both large companies virtually came to a halt. Through the next decade, oil prices traded at about 20 dollars a barrel or less. Oil company stocks were not in favor, a degree in geoscience and a career in the oil industry seemed like a bit of a foolish thought.

In 1986, I was serving a mission in Argentina and wouldn’t return until 1988. Upon returning, I found a department that had contracted significantly. Many of my friends and colleagues who I had started the introductory classes with had left; they had gone on to pursue other things in the hopes of finding good employment. And I, myself, even considered heading into law, which would’ve been a big mistake. One of my good friends is shaking his head. I agree with him.

It was a shock; it was a very different environment that I came back to and even those who were within the department were focused on hydrogeology or water fields or teaching. The problem was I had oil in my blood, from my family, and that is really what I was passionate about. I believed that it could offer me a great career. First of all, it was a very science-driven, a very technologically driven industry. It really is one of the lifebloods of our global economy. The industry and oil really has the ability to change the standard of living for many people, and I’ll share a few examples of that in a minutes.

Politics, policies, and, unfortunately, the hostilities, are often driven by access to the commodity, and it still remains the cheapest, safest, and most commercially accessible form of energy on a B2 basis. Until that changes, it will remain the most coveted form of energy. There are certain consequences to its use, but I believe that
we, as scientists, can work through that and simultaneously look for alternative energies as well as continuing the search for traditional forms of hydrocarbon.

So I had this background and this passion, and this drive to find a career in the industry despite the fact that I wasn’t going to a University of Texas or the University of Oklahoma or Rice University, which are the traditional places to go to school. Along the way I was encouraged, by a handful of people (Dr. Morris, of course, Dr. Ritter, Paul Nixon, who was here at the time), all of whom had spent time in the industry and gave me the motivation to continue on. And then I was very fortunate to meet a recruiter from Anadarko Oil and Gas that came to BYU looking for summer interns. I think he saw, more than anything, my passion for the industry and my desire to work in the industry—it certainly wasn’t my grades that attracted him to me. And from there, I took a job at Anadarko as a summer geologist working in Alaska and coincidentally got to know some very important people and influential people that had a small and relatively unknown oil company at that time, called Anadarko Petroleum, which is now one of the largest in the country. I guess the rest is history from there.

The first message I would like to leave with you about mastering your fate is find something you are passionate about; take control of your destiny; don’t be detracted by others; pursue your passions and your interests; and surround yourself with people who will support you and you will find your way through life.

Just a slide there, I already touched on the importance of hydrocarbons in our daily lives. Indeed I’ve been blessed with a nice career. I have been blessed to work for great companies that provide me with great opportunities, and I’ve been blessed with the opportunity to work for a company that I’ve shared the successes and failures with. So what I’d like to do at this point is to share with you couple of projects that I’ve worked on throughout my career—and as I mentioned earlier, this ties into the whole theme of controlling your destiny and mastering your fate. And that each and every one of these projects that I’m going to talk to you about for the next ten to fifteen minutes, people had to work hard, they had to do something to make these projects successful. At the end of the day, these projects have blessed and improved the lives of many, many people.

The first one I’ll share with you is in east Texas; it’s located about 150 miles north of Houston. The field was discovered in 1996 and it’s a Jurassic-age sandstone for the geologists in the room. It is one of the major producing gas fields, and has been for some time, in Texas. The interesting thing about it is that I was part of an exploration team whose task was trying to find a new core area for Anadarko to grow. And by core-multi rig program paid capital dollars and the potential to grow production up to a significant level.

At the time, people weren’t talking about shale gas or tight gas or shale oil or fracking, or any of those things that you talk about today. We were actually
exploring for traditional carbonate reefs and build-ups, and you could see them on the sides of data. They would build up and you drilled for them. They would be very, very deep and hard to find unless you had very good science and technology.

So we were drilling these wells, we would always find this little sandstone that always had natural gas charge, and every time we would drill for them, we'd get a big slug of gas. The problem was, at the time, gas prices were about $1 for a thousand cubic feet, which was really low. We were searching for oil in these reefs. We didn’t have a lot of success looking for the conventional reefs, so we had a meeting one day where we were talking about this sandstone, and the geologic team which I was a part of started making maps on this sandstone, and you could see that it extended for great distances all the way up into Louisiana, and everywhere had gas. Today we call that basin-centered gas accumulation, where there’s no conventional water drive or reservoir. But gas prices were low and well costs were high, 60 or 70 million dollars for one of these wells.

So we sat in a room and said, "Look, this could be a very significant thing for our company; it could be a very significant thing for the community we were operating in, so we need to figure out a way to make this work. We said, well, how do we do it, and the answer was we’d have to drive well costs down significantly in order to have any chance of making this budget economically viable, and that’s what we did. We worked hard together, we worked to consortiums with the drilling companies, we did bob turf contracts with the rigging companies, and all the service companies that were helping us in this area. As costs for the opportunities to drill oil came down, gas prices tended to rise and for the next decade, this play was producing close to 70 million cubic feet of gas for Anadarko, and it was a major cash flow generator. The point to take away is collaboration, good technology, and good focusing in on how to make things work.

This field had a huge impact as you can see from the statistics, I won't spend a lot of time on that, but when I first went to the little town of Fairfield, Texas when we first drilled in this way, it was a little motel and a barbeque shack and a gas station, and you drive through Fairfield today and there’s massive subdivisions and there’s schools, and the economic boom that transformed that whole area has been a benefit to them.

The next area I wanted to talk to you about mastering your fate and working together to bring good ideas, and good science and technology together is in Alaska. What you’re looking at here is the Alpine Field on the North Slope of Alaska. At the time of this discovery in 1994, it was the largest on-shore conventional discovery in North America in the last 20 years. Well over a billion barrels of oil equivalent in place and with covered oil between four and five hundred moving barrels—a very significant project.
What you are seeing there is the entire surface of the facility, now that covers about 100 acres on the surface and the field developing area is over 2,500 acres on the surface. And in order to make this thing work, the traditional source rock for the North Slope is the Triassic Shublik Formation, the source that predates the large fields on the north slope.

This was actually a different source rock and it took some really good geoscientists and engineers to figure out that you weren’t dealing with the same source rocks on the North Slope here than you were in the traditional oil fields. It was a paradigm shift, and that led to the exploration, which ultimately resulted in the discovery of Alpine field. This was one of the first areas where there were long-reach laterals; they were on the order of three or four thousand feet, as opposed to these days where we are typically drilling at 15-20,000 foot laterals to develop reservoirs.

But here we had a major technological breakthrough. This is a completely isolated facility. There are no permit roads given the environmental sensitivity of the North Slope. It is serviced by an airship in the summer and, in the winter time, it is serviced by a 25-mile ice road that is built every winter that costs one million dollars per mile to build, every winter 25 million dollars. We built the ice road out to resupply and then the ice road melts away. This road actually goes out over the Beaufort Sea up over the ice and actually comes back around into the facility. Everything’s there: all the wells, these are all the wells. All the wells are lined up there. There are about one hundred plus wells. And those wells are drilled down and the horizontal wells go out and access the reservoir. These are all processing facilities here for oil and gas. Here is a pipeline to take the oil and crude back, to take the oil and water back to processing and gas to go to the reservoir. These are the living facilities here. There is a bowling alley and a movie theater, so they are totally self-sufficient. Again, great technical work. The only thing that made this work was a collaboration and a focus on technology, utilizing new technology, people working together. And just a quick slide on the impact. Again, huge impacts both for the state of Alaska and the local unions.

The third area I’ll mention is the Independence Hub, which is a floating productions facility in the eastern Gulf of Mexico. The eastern Gulf of Mexico had been under moratoria for many years, no oil and gas exploration, and it opened up in the mid to late 90s for oil and gas exploration.

A number of companies went out and explored the area and found mostly natural gas and relatively small fields, so the fields were not large enough to support their own facility. The industry got together with my company at the time Anadarko. Other companies Devin and a few others got together and decided that we were going to build a consortium to put together a full production facility to use the resources in Mexico to develop all the fields together into one unit. At the time it first came on production in 2007, it was producing 10 percent of all the natural gas in the Gulf of Mexico and about two percent of all the natural gas produced in the
United States. So it is a significant facility, and a significant economic achievement. It cost about 2 billion dollars, and it is still producing natural gas today that we use to generate these lights and keep our homes and apartments warm.

The last area I’ll touch on is an area that I loved to visit when I was at Talisman Energy. It’s in Iraqi Kurdistan, and this is still developing. Kurdistan, as you may know, is a tremendously, ethnically, historical region of the world and Northern Iraq. Bordered on the North by Turkey and Armenia, and Iran’s to the east, and it’s part of Iraq. Erbil, the capital of Kurdistan, is a 6,000 year-old city. And you go there and there are documents of Abraham, literally, documents of Abraham walking around. For the Biblical scholars in the room, this is the area of the Tower of Bable; this is Nineva; this is where the three wise men came from; this is a tremendously historical place.

Unfortunately, it has also been an area of significant turmoil throughout history, and even as we speak, it is under siege again. The area was gassed by Saddam Hussein prior to the second Gulf war. It’s also an area of tremendous oil and gas potential. You can see in the background of that bottom photo those are the Zagros Mountains, so as you can see, it is in the basin of the Zagros, one of the premier oil producing regions in the world.

Following the Gulf War, international oil companies (I worked for a Canadian company at the time) were very opportunistic and went in and picked up acreage in this area, and our company had three blocks, and we drilled two of them. Those are a few of the number of discoveries that companies have made in the region. The discoveries that are made here have the power to transform Kurdistan forever. The amount of job creation, the amount of royalties, the taxes that are being generated, through the ultimate production here, will have a huge, huge impact on the region, should the security of the situation stabilize. Our company Talisman was operating in the southern port of the region exactly where some of the greatest atrocities that I’ve described had occurred, and Talisman took a leading role in rebuilding schools and playgrounds and mosques and other very historical areas that had been destroyed. And that’s the kind of thing that I am proud of in my career that I work in.

To summarize, I wanted to share with you four examples again where technical collaboration, good science, good technology, has led to new discoveries of resources that, of all four of them, share common themes. Together, they had good science and engineering work. They all included the application of new and improved technologies. In the east Texas Plain, it was the new fracture technologies, needed the ability to frack these oils to produce them. On the North Slope it was the ability to have a very small footprint to develop a very large reservoir. In the eastern Gulf of Mexico, as I mentioned, it was bringing the technology to tie back various oil and gas fields to build the facility. Then in Kurdistan, it’s important to work with the local governments to develop these resources. Collaboration is very important, and certainly a willingness to take risks, because this is a risk-based business.
To conclude my remarks, it wouldn’t be an alumni talk without offering some advice to you. After twenty years of working as a scientist in this industry, there are a few things I have learned along the way. I’ll give you a list of some things to think about as you think about your careers in science and think about what you can do to make the world a better place.

The first thing I’ll say is, find something you love to do and be passionate about it. My passion was the energy industry and geology was my foundation, so as I was thinking about how to pursue my passion, geology was first and foremost with that, even when I was considering law school, it was intended to be oil and gas law. For your passion it may be physics or chemistry or mathematics, or astronomy or engineering of medicine. It really doesn’t matter. If you love it, and are passionate about it people will notice. And they will notice that more than where you went to school, what your grades where, where you come from, what your background is, they will notice that passion. I think that was particularly true of my instance.

Second, work hard and don’t feel entitled. A strong work ethic will serve you well. There is somewhat of a healthy attitude of entitlement, I think these days. People want everything, and they want it now. My advice is to be patient and work hard, enjoy the journey, build the experience, put in the time to develop the skills and the knowledge and the perspective, and be careful what you ask for because you just might get it. I’ve seen it in my career that one of the biggest detriments to one’s career is being placed in an opportunity or position too soon. That is very hard to recover, failing in a position of significant responsibility. So again, work hard, build the skills you need. Remember, no matter where you are, the next job opportunity you have is generally based on how you perform in your current job.

Number three, be willing to take risks. There is a lot of joy and learning in the journey. And there are many rewards out there for people who have competent skills and are willing to take a risk. Be open minded, accept opportunities that may stretch you or ask you to step away from your comfort zone. I’ve been very fortunate in my career, on a number of occasions, to step outside of geology for a period of time. While I was chief scientist at Anadarko, that was really a human relations job. It was all about people. It was about recruiting; it was about hiring people; it was about transforming people. My title was geoscientist, but I didn’t do much with geology, it was more people-related. When I was in corporate strategic planning, that was about the commercial side of business, it had nothing to do with geology. On two occasions, I was responsible for two gas-producing facilities, and that was all engineering, probably more engineering then maybe I would like, but it was a great opportunity. And the point is, is if the point of all of these role and experiences round you out as an individual, and it’s like putting different tools in your toolbox, further down the road you can pull those tools out and work with them. Be willing to take the risk. You will always have your BYU education, you will always have you previous experience, you will always have the gospel and the
church and hopefully you will have the strongest part your family to rely on, no matter what you are working on.

Four, prepare for setbacks and challenges, because I'll tell you, they will come, a lot, just like life. The challenges will come in the form of change, and difficult working situations, professional failures, career path disappointments, all of the above. Prepare yourself for the challenges and don’t let yourself change who you are as a person or detract from your goals. Endure and persevere through challenges with honor and dignity, enable paths, and you will soon find yourself back on whatever track you had. As in life, these are periods where you need to stay closest to the Lord and your family. These are times when you need to be refined and prepared for what lies ahead. There is a beautiful little book by Spencer Johnson entitled, *Who Moved my Cheese?* If you haven’t read the book, take my suggestion and go buy it; it’ll take about a half a day to read. It’s a great book. In metaphor, the book describes two mice and two little people who have to deal with a bunch of change and setbacks and disappointments and challenges. The one who accepts it and moves forward ends up finding the greatest happiness, and in fact, finds the new cheese, which is better than the cheese that they had before. Go read the book, it’s great.

Number five, continually reinvent yourself. My experience in the world and in businesses is that it is extremely dynamic and it changes very, very rapidly. My experience has taught me that you really need to manage your career in five to seven year increments, that’s what I’ve found. For one minute, that skills that got you to one point are not going to be the same skills that get you to the next point. Those skills may be obsolete. You need to learn to adapt and learn to develop the skills and position yourself to be attractive in a world that is changing.

Number six, particularly for the scientists, learn to talk commercial. With very few exceptions, most of you will be working in your careers for some entity that exists for the sole purpose of creating some sort of value. Whether that’s a publicly traded company that exists to create value for shareholders; whether that’s a research company that exists to develop commercially-viable advancements for government, industry, or medicine or science, or even a teaching institution that exists to attract and train the brightest individuals, at the end of the day, much of what we do is about creating value. So it is imperative to you, as scientists, to learn to communicate the language of finance and economics. To understand how your work influences the decisions that leads to sound business strategy and the creation of value. I promise you this—those scientists that embrace and learn to develop those skills will find the greatest opportunities in whatever field you go into.

Number seven, be humble and grateful. I like to call humility and gratitude the twin sisters of greatness. Every person that I have ever met in my life that I hold in the highest regard exhibits these two virtues. And because of that, they are very hard to find in the world. There are a lot of really, really, good people in the world, but there are really few great people. I think the people who exhibit these two virtues are
those. I suspect everyone in this room will be successful in their careers because you are smart, well-educated, you’re honest, hardworking, and you are very focused. These virtues will make you a really, really good person and a really, really good employee, but humility and gratitude will make you a great person.

Number eight, look for opportunities to serve others. Service is a fuel for your soul. It energizes and gives your life added meaning and joy. As members of the Church, we have been presented with the opportunity to serve each other and embrace it on a daily basis as part of our culture; however, opportunities to serve others are present every single day inside and outside of our church callings. So I encourage you to take that spirit of service that naturally exists within every Latter-day Saint and integrate it into your daily life as a professional.

Number nine, don’t neglect your family. Learn about your work and family life. Now, we’re at the end, so I’m going to wrap up here in about a minute, and I’m sure you’re probably tired, but if you remember one thing, I think the single most important thing you can do to advance your career is to create a stable and healthy family life. I’ve seen it time and time again in my career, that instability in family life effects performance at work. It impacts the opportunities that will be presented for growth. Work demands can be very high and stressful; however, do your best to allocate sufficient time. There is no magic bullet here. Every family is different, every marriage is different, and every child is different. The key is learning how to manage your time effectively and clearly understand the needs of your wife and children, or your spouse and your children. Learn when it is appropriate to focus on work and when it isn’t.

Finally, the last and probably most important piece of advice I can leave with you regarding your career and your future and grabbing hold of your fate is to have faith and trust in the Lord. I can testify to you that the Lord guides our lives. Even when it appears we’ve made bad decisions, or wrong decisions, He’s there, guiding us. I can tell you that because I have experienced it in my own life. He doesn’t want any of us to fail; He wants us to hear. He wants us to make choices so that we can grow and develop and be there when we make mistakes, I know this because I have seen it. You need to have faith that He will pick you up when you are down, and have faith that he will forgive you. Have faith that He will bless and strengthen you and your family as you pursue righteous endeavors to the best of your ability.

Again, I’m standing in front of you today having a wonderful journey thus far, which I hope isn’t over; I’m pretty young. Because of His guidance in my life and His blessings He has offered my soul.

Friends, family, college, university—thank you for this wonderfully nice honor. I’m very proud to represent the University and the College of Physical and Mathematical Sciences and their distinguished alumni for this year. Rise and shout, Cougars. Go forth and serve, and be the master of your fate.