Richard Lovat

80th birthday tributes from friends, customers, industry leaders and LOVAT supporters

On the occasion of your birthday Richard, several friends and supporters prepared tributes and sent messages of best wishes.

These are printed here in full and in recognition of the tremendous contribution you have made to the birth of mechanized TBM tunneling and its introduction to so many different countries around the world.

We all join in wishing you a very happy birthday and many happy returns.
The commemorative medal for the 125th anniversary of the Confederation of Canada is conferred upon Richard Lovat.

1867 – 1992

In recognition of significant contributions to the Confederation of Canada and to Canada, Richard Lovat is recognized for his contributions to the Confederation of Canada and to Canada.

Governor General of Canada

[Signature]

Governer General of Canada

LOVAT NEWS

Wednesday, January 22, 2003

Richard Lovat receives the “Service and Supply Award” for his “Golden Beaver Award”.

Friday, January 17, 2003 - The Century Plaza Hotel in Los Angeles, California, serves as the backdrop to the evening’s main event: The 48th Annual Golden Beaver Awards Dinner.

One speaker, Bob Maroney, master of ceremonies, hits the mark. Members of the design and construction communities of Canada’s West Coast, were invited to recognize the individuals representing different facets of the construction industry. These individuals have made outstanding contributions to the industry and in doing so, have brought credit to themselves and to their profession. Gold Beaver recipients represent over 215 years of experience in the construction profession. Over the years, Mr. Lovat has received many awards, including a special honorary engineering degree from the University of Toronto in Italy.

Congratulations, Richard.

[Signature]

[Signature]

Repubblica Italiana
Politecnico di Torino

A nome del Consiglio Direttivo del Collegio ho l’onore di consegnare a Riccardo Lovat il distintivo d’oro dei Periti Industriali per l’attività professionale ed imprenditoriale svolta.

[Signature]

Ferrara, 31 Marzo 1995

[Signature]

Ontario

In recognition of its success in exporting to global markets and its contributions to the People and Province of Ontario

[Signature]

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Milo Harris, Première

On February 13, 2002, in Moscow, Russia, the celebration of the 100th anniversary of the Toronto-based “Tinto” Museum in Russia and Germany.

February 12, 2002
FROM PAT CLEARY

I worked in England for four years in tunnel work before coming to Canada in 1957. I have worked in the tunnel industry ever since. Shortly after my arrival in Canada I got to know Richard Lovat. He was working for Sam Constantino Construction and I for S. McNally and Sons Limited. The two companies were big rivals in the tunnel industry in for many years.

I believe I am qualified to comment on Richard’s achievements. I have watched him progress for almost 40 years since he formed his company, Richard’s Equipment Repairs, sometime in the mid-60s.

Tunneling at that time was all done by hand, digging with pneumatic spades and hand shovelling. The main tool for supporting the ground and keeping back water and sand inflow to the tunnel was compressed air. Tunnel workers working in compressed air were exposed to severe health problems including the bends, as suffered by sea divers, and bone disease. There were many tunnels constructed in Toronto in the 1960s using high compressed-air pressure. These include many sewer tunnels and the Yonge Street-University Avenue subways systems. Many workers suffered severe health problems as a result. Many died 20 years prematurely as a consequence of working in compressed air. In 1960 I was a healthy 25 year old that was refused life insurance due to the fact that I was working in compressed air.

Richard experienced all these hazards and was the type of person who was concerned about other people. It was this and his own background that sparked the start of his journey to build a tunneling machine that would eliminate compressed air. To date Richard has reached that milestone and more.

In the late 1960s, the Ontario Ministry of the Environment was contemplating a large sanitary sewer system running from Newmarket all the way down Yonge Street and heading southeast to Pickering to a sewage treatment plant and an effluent outfall passing 1km out under Lake Ontario. The geotechnical soil investigation identified the most challenging conditions ever encountered in the tunnel industry with 80% of the system being constructed in deep tunnel, crossing the Oakridge Marine at several locations.

Richard was confident he could build a tunnel boring machine that would meet the requirements to complete this project. The biggest task was to convince the tunnel contractors and engineers that it could be done. Richard finally convinced a couple of contractors to purchase a LOVAT TBM.

This project was known as York Durham Sewage System. Construction began in the early 1970s and S. McNally and Sons Limited purchased a LOVAT TBM. After the success of that TBM, McNally was the successful tenderer for nine more contracts on that system. There were four LOVAT TBMs working on this one project at the same time. If McNally had not purchased a LOVAT TBM we might have buried several workers, as the ground conditions were so severe, with underground rivers and boulders. This complete project was done in very difficult soil conditions with up to 20m head of water. Without the LOVAT TBMs I shudder to think of the results of the high compressed-air pressure that would have been required to complete the project.

As we move into the late 1980s McNally and Sons Limited completed a sewer tunnel project in Ottawa that could not have been accomplished without a LOVAT TBM. Many tunnel contractors went broke working in Ottawa. It was known as the graveyard for tunnel contractors.

The most recent subway tunnel construction for the Toronto Transit Commission along Sheppard Avenue, from Yonge St to Leslie St, was completed in 2001 with two, state-of-the-art at the time, LOVAT TBMs. The performance of these machines was absolutely magnificent. The only tunnel contractors who survived in Ontario, were those that purchased LOVAT TBMs. Many tunnel contractors, not only in Ontario but all over the world, owe Richard Lovat a lot of gratitude for their success, due to LOVAT TBMs.

We saw some very high air-pressure work in the 1960s and 1970s and in the late 1960s tunnel work was the most hazardous part of the construction industry. The following workers compensation rates speak for themselves. In 1969, the WSIB rate in Ontario for tunnel construction was $14.00 (14%). In 1989 the rate was reduced to $10.90 and has since reduced further to $7.8. Richard Lovat and his technical engineering skills of the TBM was by far the leader in achieving this goal.

With Lovat TBM technology, rapid excavation advance has increased 15 fold since the 1970s. As well as holding many other tunneling records, a LOVAT machine entered the Guinness Book of Records in 1982 after mining 2,063ft in seven days in Backriver, Charleston, South Carolina.

Every successful tunnel contractor in the world has purchased a LOVAT TBM. With his machines presently working all over the world, one can clearly see the success of this man’s journey. These accomplishments were not achieved easily. He worked diligently for long hours and took on large risks. You would have to write a book to get all of this man’s accomplishments on paper.

Richard Lovat’s hard work and determination to succeed has clearly paid off, as he is a recognized authority in the field. As President of the company he was actively involved in engineering, design, manufacturing and sales. He registered many patents. He has been recognized by his peers, as evidenced by the many plaques and citations decorating the walls of his office and the front lobby of the company’s headquarters.

Richard Lovat is definitely a protagonist in his own field. A man that can be admired and respected for his drive and determination, for his striving for success and international recognition. He is someone in our community that we can be proud of and use as a symbol of success.

I have seen tunnel equipment manufactures all over the
world copy his designs and ideas.

To date LOVAT tunnel equipment leads the world class in manufacturing with more than 250 new TBM complet-
ing more than 1.5 million meters of tunnel. The company
has more than 400 trained employees and professionals,
led today by his son Rick Lovat.

Richard and his late wife Lucille raised a beautiful fam-
ily despite the long hours put into the business. Their son
Rick, a professional engineer, is more then capable to
carry on the business for many years.

It is immigrants like Richard that have made the Golden
Horseshoe the best part of Canada to live.
He is a true businessman and truly, a true entrepreneur.

Patrick Cleary, Retired Tunneling Director,
S. McNally and Sons Ltd, Toronto, Canada

FROM STEVE WALKER

I first met Richard 18 years ago when I visited
Toronto to see a machine undergoing
factory trials. We
encountered many diffi-
culties in the construc-
tion of our London Ring
Main. For the second
phase in 1991, we
selected three Lovat
TBMs. For them our
specification was tough.
We wanted reliable high
productivity and the ulti-
mate security of EPBM mode if required.

Richard totally supported our design concept and chal-
lenged his designers to develop a radical segment load-
ing and manipulation system to enable the fast turn-
around we needed for high productivity. Equally impor-
tantly Richard mentored all involved to achieve a TEAM
effort combining ‘firsts’ in segment design and tunnelling
systems. The result? More than 40km of tunnel, two
years ahead of programme and under budget, and a
world record 501m in one five-day week! The same three
machines have now totalled more than 100km of tunnel –
a tribute to their design and manufacturing quality.

I recently met Richard while on vacation in Toronto for
a long weekend. Of course I wanted to visit the LOVAT
factory. The problem was that I could only visit on a public
holiday. Nevertheless Richard greeted my son and I
warmly. My son said afterwards: “He is a legend. Warm,
knowledgeable – and generous in his hospitality.” How
right was my son. Of course we walked around the facto-
ry and as ever, Richard had a word for everyone – and a
suggestion for each person to improve the practicality of
what they were creating.

Steve Walker
Major Projects Director, Thames Water, UK

FROM TAMARA KERIM

Richard Lovat is a
man of the highest
standards, the highest
values, and the
highest honor.

He is kind, compas-
sionate and caring yet
at the same time he is a
creative technical
genius, highly entrepre-
neurial and an astute
businessman.

On one occasion
Richard shared with me
the reason that compelled him to create Lovat
Tunneling. He told me a story about his father and
the old-fashioned method of tunneling in Italy at that
time. He described the immense hardships the men
had to endure in these tunnels and that many per-
ished due to faulty equipment, flooding and other
accidents. This was a highly dangerous occupation.

Richard was still a young boy when his father died
from ill health due to working in tunnels, and he
vowed to dedicate his life to improve the working
conditions by developing the kind of equipment that
would save lives and make the environment much
safier for the people laboring underground.

Richard Lovat is indeed a remarkable and accom-
plished man whose life has been dedicated to the
advancement of the tunneling industry. It has been
my great privilege to work with Richard Lovat in the
Russian market; to travel with him to some
exotic places and to
witness how warmly
and with what great
respect Richard was
always greeted wher-
ever we went.

Tamara Kerim,
Retired Founder
of Intorg Inc,
US/Russian trading
agency, Sacramento,
USA.
Richard Lovat is a pioneer in constructing tunnel boring machines. He contributed significantly to the safety in mining and tunnelling by finding viable solutions, developing machines for diameters up to 14m and for most geological compositions.

In 1984, LOVAT delivered to Germany the first tunnel boring machine with segmental lining provided for the deep sewage collector project in Hamburg. Driving the tunnel at up to 80m below the port in Hamburg was realized by using a TBM with a diameter of 5m and achieving up to 35m per working day.

In 1989, Lovat delivered a TBM having a shield diameter of 5.2m for the construction of a district-heating tunnel below the English Garden in Munich. The Hamburg TBM was also expanded in order to reach a shield diameter of 5.2m. Both machines were used successfully for the 5,200m long heading in Munich. For the new tunnels of the Munich water supply system, LOVAT delivered two further machines with a shield diameter of 3.4m. About 40km of tunnelling in Germany have been driven with great technical and economic success due to LOVAT TBMs.

I have known and regarded Richard Lovat for nearly 25 years. He has always been a fair business partner and an engineer who gives top priority to reliability and customer satisfaction.

The story of Richard Lovat who emigrated from Europe to Canada in 1951 is really admirable. He started his first company, Richard’s Machinery and Repair Ltd., and expanded it continuously. Up to now, Lovat has been delivering several hundreds of TBMs all over the world. The name Lovat is a synonym for tunnelling technology, reliability and customer focus.

I would like to offer Richard my congratulations on the occasion of his 80th birthday and I wish him all the best for the future.

Michael Beyer, General Manager, Hochtief Construction, AG Alps Region, Germany (previously with Bilfinger Berger, Germany)

FROM TED BUDD

Richard, congratulations on your 80th birthday.

I am looking forward to our annual ‘Dream Team Toasting’ with our golf partners and special friends Larry and Pat at the annual golf outing. This year’s toast will be extra special; almost as special as our true friendship that started before the Lake Cook Road project and has grown over the years.

I remember the many visits to Toronto to see you at the factory; the many conversations about machines, projects, friends and our families; our dinners with your family; our site visits to many projects around the world, such as Houston, Caracas, Carsington, Nipawin; your site visits to several projects with your clients such as Lake Cook Road, Wheeling Road, the many to Milwaukee including ‘Supercrunch’ and hosting the Milwaukee picnic with your group from Europe, to the projects in Texas; and of course to see your ‘Girls’ in Los Angeles. It was a very special honor to me to have the four LA machines named after your late wife, your two daughters and your daughter-in-law – Lucille, Diane, Sonia and Angie.

The LA experience was a very successful project and was topped off by you being awarded the ‘Golden Beaver Award’ at the Beavers Awards Banquet at the Century Plaza. An award for you, the true pioneer in the development of rapid excavation in soft ground tunneling. A deserving award that made your family and close friends beam with joy.

These times and many others have led to a true friendship that we have both been able to share throughout the years. I’m looking forward to many more. My sincere congratulations!!

Ted Budd, Tunneling Director, Kenny Construction, USA
For more than 25 years Richard Lovat has been a legend in the Russian tunneling community. Though he did not work in that market for a long time before he turned it over to his son Rick, his impact on the Russian tunneling industry is enormous.

Richard’s down to earth practical approach to problems that tunnel builders face underground, his common sense emphasis on safety, simplicity, and reliability of the machines have won him respect and admiration of his Russian counterparts.

A man of a few words he would sometimes explain his point by drawing with a stick in the dirt or in the snow, or just by showing with his hands how a machine would behave.

As my job among other things was to translate what Richard was saying it took a lot of creativity on my part to expand on his: “Trust me, I have been down there…”. But Richard had such a strong personality and presence, that in most cases these words did not require any proof.

Back in 1989 we organized a technical seminar in a small city of Protvino, where the first two Lovat TBMs in Russia were delivered. Two hundred people who gathered - crème de la crème of Russian tunneling - were hanging on every word that Richard said. They knew this self-made man, who started from a small machine shop, had made something that the huge behemoth of the Soviet industry could not achieve: build machines that broke world records in tunneling while keeping people inside these machines safe.

Now, after so many years, and with more than 25 LOVAT TBMs digging in every remote corner of Russia, many of Rick Lovat’s meetings with Russians end with one of them saying to Rick: “How is your father? Say hello to him.”

The UK tunnelling industry is indebted to Richard Lovat for the contribution he has made personally to recent developments in earth pressure balance TBMs, which has enabled the UK industry to be viewed globally as one of the leading players in modern tunnelling techniques.

In 1989, the inundation of a tunnel section of the London Water Ring Main between Streatham and Brixton put at risk the 1996 programmed completion date for the whole project. There was no precedent for tunnelling in the conditions encountered by that tunnel section, which comprised Thanet Sands at 4 bar hydrostatic pressure. Things looked bleak for that section of the tunnel.

Thames Water and its contractor, Fairclough Tunnelling, set out on a tour of the world to see what options were being developed that would enable the Tooting tunnel to be completed. Earth pressure balance TBMs were clearly the best option available, albeit never having faced pressures of up to 4 bar.

TBM manufacturers were visited by the Thames Water-Fairclough team and the individual who impressed them the most was Richard Lovat and his team in Canada, not only for his enthusiasm to embrace the new technology but his record for producing robust TBMs in the North American market. Lovat was awarded the contract to produce the first EPBM to be used in the UK. Under Richard’s leadership the TBM was produced on time and on budget.

The success of the TBM in completing the Tooting section of the Ring Main is well documented and much of the success is due, in no small part, to Richard and the LOVAT team.

But that of course was not the end of Richard’s contribution to completion of the Ring Main. Thames Water and its contractors Fairclough Tunnelling, Costain, and J. Murphy, determined to continue to move the tunnelling industry into a new era of high speed TBMs, utilising the principal of the robust Lovat designs. The technology learned during the Tooting drive was developed for the final three stages of the Ring Main construction.

Three TBMs were ordered from Richard and his team and these achieved new records for tunnelling in London Clay with a best weekly progress of 502m for a 10-shift week.

The Ring Main was eventually opened in 1994 - two years earlier than programme. Much of this success is thanks to Richard and his team.

Since that time LOVAT has dominated the small diameter TBM tunnelling market providing consistent rates of progress and high TBM availability to its clients.

FROM ANDY MILLER

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FROM YURI ROCKLIN

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Yuri Rocklin, President and CEO, Intertorg, Inc, Sacramento, USA and Moscow, Russia. LOVAT’s representative in Russia.
My first contact with Richard didn’t lead to the purchase of a machine, but the second one did. It was the TBM for the Tooting Bec section of the Thames Water London Ring Main, a drive through saturated Thanet Sand, something that had only ever been done before with the benefit of compressed air. But at Tooting, the groundwater pressure was up to 4.2 bar (140ft head of water) - well beyond the UK legal limit for the sustained use of compressed air.

We considered use of a slurry TBM, but every separation plant manufacturer we consulted declined to quote after we showed them the grading curves for the sand through which we were going to have to tunnel. We examined the possibilities of stabilising the soils and of dewatering them, but the programme durations and costs were prohibitive. That led us to explore the use of an earth pressure balance TBM, a tunnelling method new to the UK at that time, but which we had been led to believe was well established in Japan and that our 4.2 bar pressure would not be a major problem.

Well, we decided to look into these claims and visited job sites and factories in several countries including Japan, Germany, Italy, France and the USA. We met lots of very competent people, all of whom were courteous, co-operative and straightforward with us, but nowhere did we find conditions comparable to those at Tooting.

Without question, the work going on in Japan was the most impressive. There were hundreds of EPBMs in Japan and several reputable manufacturers, but we ran into a couple of serious problems, not least of which was the language barrier. Also, the Japanese manufacturers wanted to design the machine in Japan and manufacture in Europe or the USA, using partners with whom they had existing agreements. In my opinion, that arrangement carried unacceptable risk. I was adamant that the machine would have to be designed and manufactured in the same place, so that the engineers who had designed the machine could provide comprehensive oversight of its manufacture.

I believed the solution lay in placing the order with LOVAT. By that time we had had sufficient discussions with Richard and his team for me to develop a strong trust in Richard’s technical ability and integrity. Although he had not previously made a true Japanese type EPBM, he had made a series of advanced TBMs which had performed productively in adverse geological conditions and reliably in the hands of experienced tunnellers.

Richard’s approach to TBM design seemed to take account of the robust practices of hard core tunnellers while at the same time leaving no stone unturned in the pursuit and achievement of engineering excellence and precision where it really mattered. I believed him to be a very practical perfectionist, a belief that remains unshaken to this day. We therefore placed the order with Richard. It was his 100th TBM. The machine was handed over to us in Toronto, on time and it subsequently performed spectacularly well at Tooting.

That success led to substantial further business for both us and LOVAT. For our next contract on the London Ring Main we procured another LOVAT TBM and with it we shattered the world record for the length of lined tunnel constructed in one week. I understand that that record still stands unbroken. We delivered that tunnel well ahead of programme and inside Thames Water’s target cost.

We then decided to standardise on LOVAT as our supplier of all TBMs for tunnels above 2m i.d. for both segmental linings and pipejacks. With these machines we went on to enjoy successes with other major clients such as North West Water/Bechtel and Anglian Water. Other UK contactors did likewise. Tunnels that had previously been regarded as very difficult, or even impractical, became grist to the mill of Lovat machines. It is not overstating the case to say that they transformed tunnelling in the UK.

It isn’t only contractors and clients who have gained from the use of LOVAT machines. Workers on the machines have benefitted also in terms of safety, working conditions and consistency of earnings. The reliability of LOVAT machines made it possible to agree productivity-related bonus schemes with the workforce which were previously inconceivable. These have had the effect of significantly shortening tunnel contract programmes. We tunnellers all owe at debt of gratitude to Richard.

I attribute some of his success not just to his technical capabilities but also to his commercial integrity. He always quoted us fair prices and realistic deliveries; so much so that I personally never questioned a price from Richard. I knew that he was always giving us his best shot. As a result I never tried to make LOVAT responsible for a risk that lay properly to our account. Likewise Richard never tried to retreat from his obligations to us.

Richard Lovat has made an indelible mark on mechanised tunnelling the world over and history will long remember him for it. He ranks among the giants of our industry, yet he remains an eminently approachable man. All in all, he is, as we say in the UK, a bloody good bloke. I consider myself privileged to be able to call him a personal friend. I wish him the very happiest of birthdays.
FROM PETER JAQUES

Dear Richard,

I am delighted to have this opportunity to write a few words in celebration of your 80th birthday. Like many of my contemporaries I have spent virtually all my career in the tunnelling industry and it is only on occasions such as this, when one reflects and thinks back, you realise how much has changed during that time. It is no exaggeration to say that the company you founded has changed the face of tunnelling on a global scale, to the extent that the name ‘Lovat’ has become synonymous with meaning a tunnel boring machine.

In the early 1990s, Thames Water purchased four Lovat TBMs for use on the London Water Ring Main. This was the first major exposure of Lovat technology in Britain and was to become a major turning point in UK tunnelling.

Murphy was one of the companies involved with that project and I remember meeting you when we visited Toronto in 1992 for a factory acceptance test. At that time I recall being impressed not only with your enthusiasm, knowledge and involvement in the project, but also that of the whole LOVAT workforce.

Since those days Murphy has grown to be one of the largest tunnelling contractors in the UK and has now constructed well in excess of 100km of bored tunnel - virtually all of this constructed using LOVAT TBMs. It is a testament to the quality and longevity of the product that many of the earlier machines are still in regular use.

Over the years I have had the pleasure of visiting Toronto a number of times. On each occasion I find that, although the factory has expanded and the machines have grown larger and more numerous, Richard Lovat has remained the same. You have always been great company, a most affable host, a totally dedicated tunneller, and as I recall, a pretty mean golfer!

On behalf of the whole Murphy tunnelling team I wish you a very happy and enjoyable 80th birthday. May you have many more to follow.

With very best wishes

Peter Jaques, Tunnelling Manager, J Murphy & Sons, London, UK

FROM TOMMY TALBOTT

I first met Richard in 1989 when Thames Water awarded Miller Civil Engineering the London Ring Main contract from New River Head to Barrow Hill. On being awarded the contract the Miller tunnel team, who at that time included Chris Hughes as Tunnelling Contracts Manager and Ian Reid-Jones as tunnelling plant specialist, carried out a further comprehensive assessment of the various tunnel boring machines that would be most suitable for the project.

During that period I had a meeting at Heathrow with Richard who had flown in from Toronto. We had a detailed discussion on the performance and advantages of the LOVAT TBM and how technical and ground problems would be managed.

As the meeting closed Richard said that the meeting had been most interesting but he understood that James Miller, the Chairman of Millers, was a personal friend of a director of one of the other machine manufacturers and that may have an influence on the decision of which TBM would be selected. As was the normal form in Millers the only pressure I had in respect of this very important decision was to ensure the most suitable machine was selected, and the LOVAT 131 was purchased.

The tunnelling was carried out successfully with first-rate support from Richard and his organisation and the client indicated they were very satisfied with the project. The machine was LOVAT’s number 99 and was one of the first, if not the first LOVAT TBM to be used in the UK – there has always been some ‘difference of opinion’ as to whether it was the first Lovat TBM or whether it was Colin Mackenzie’s on the Tooting Bec project - I understand that Colin’s machine was LOVAT number 100?

That was the beginning of a highly successful relationship with Richard and later with his son Rick. Since that time Morgan Est (formerly Miller Civil Engineering), under the Directorship of Chris Hughes, has employed LOVAT machine numbers 110, 167, 182, 183, 158, 230 and 238. The latter three are currently in operation in the UK. The original machine, number 99, drove the surface-water outfall tunnel at Heathrow Terminal 5 in 2005-06 and is still operational after 20 years. All through this period the support and sound advice from Richard has been outstanding.

My tunnelling colleagues and I wish Richard a very happy 80th birthday and the best of health and good fortune in the future. For 20 years he has been one of the most respected men on the UK tunnelling scene with an unparalleled reputation for his innovative and common sense approach to mechanised tunnelling.

Thomas (Tommy) Talbott, Retired Director, Millar Civil Engineering (now Morgan Est), UK
There are plenty of anecdotes regarding Richard and his machines but here are just two that relate to our first experiences in 1989.

On conducting the penultimate walk around inspection of our TBM number 131 in the workshop in Toronto, the subject of task lighting was raised to see if Richard had taken on board our requirements to fully light all areas of the back-up gantries. I will never forget Richard’s reply. “How the **** are you going to use the machine properly if you can’t see it?” Far from giving offence, this answer won hearts and minds within our team as it was exactly what we wanted to hear.

On starting the same TBM on the job site in London, the locomotive driver parked the loco and muck train in the ‘usual’ position under the end of the primary conveyor. The first muck we excavated with the machine literally flew off the end of the belt, over the full length of the loco, filling the drivers cockpit, leading to smiles all around as we had never seen that much dirt move so quickly!

Since then we have undertaken many kilometres of tunnels with LOVAT TBMs and at this time (mid-2008) we own eleven of them and are fortunate to have five currently working in the ground, three in London and two in Belfast.

Tunnelling is a tough business, and when things are not going right you need friends you can trust. I am privileged to call Richard one of them.

Chris Hughes, Managing Director, Morgan Est Tunnelling Services, UK

I first met Richard in Cairo 20 years ago when he responded to a request to TBM manufacturers for information by coming to Cairo in person.

Richard in my view is one of the great engineering entrepreneurs of his time. He has built a successful business by providing contractors what they need to carry out tunnelling in difficult ground. His success has been that he has always been in the thick of things, driving innovation, learning from contractors’ and improving his machines. His machines were simple and effective and built to withstand knocks. Richard has always taken a personal interest in the progress of each of his machines, no matter where they went in the world. By using one of his machines in Cairo we managed to improve our production rates by 600% and removed the need for low-pressure compressed air.

On trips to Canada during manufacture of our machines Richard would always be in and around the factory working with his employees and making sure that the TBM would be built to his specification. He clearly earned the respect and support of his skilled and dedicated workforce.

Over the past 20 years I have grown to respect Richard for the great man that he is and feel privileged to be able to call him a friend.

Dave Court C.Eng FICE, Tunnelling Manager, Edmund Nuttall Ltd, UK

Few names in the international tunneling business are instantly recognizable. LOVAT is one and due in large part to one man.

As Richard celebrates his 80th birthday, his commitment to the company and enthusiasm for the business is undiminished yet few of equal stature in the industry have a greater sense of place in the grand scheme of things. Most would agree Richard’s sense of self is less about himself and more about “what can I do for you”. Modesty with confidence in his ability and that of his company, are qualities associated with one of the most recognized and respected individuals in the business.

As a roving report for the tunnelling industry since 1982, I have visited and written articles on probably more than 150 LOVAT TBM projects. From the triumph of rescue projects, to the many TBM workhorses in so many countries around the world; against the slings and arrows of criticism and the disappointment and elation of tough competition; the industry owes a great deal to Richard and to his team. He remains one of the best friends the industry has ever had. In his career Richard has seen tunneling go from hard and dangerous manual labour to one of the safest sectors in the construction industry.

Bravo! Richard. To be in your company is always a pleasure, to talk tunnels with you, always an education.

Shani Wallis, Freelance Tunnelling Journalist