

# TRENCHLESS WORKS

TRENCHLESS WORKS IS THE ON-LINE NEWS AND INFORMATION SERVICE FOR THE TRENCHLESS INDUSTRY ENDORSED BY BOTH THE UNITED KINGDOM SOCIETY FOR TRENCHLESS TECHNOLOGY (UKSTT) AND THE INTERNATIONAL SOCIETY FOR TRENCHLESS TECHNOLOGY (ISTT)



ISSUE 44

APRIL 2010

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NO-DIG LOSES A PIONEERING FIGURE  
DONALD FRANK REES  
1918-2010

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# INDUSTRY, COMPANY AND INSTITUTION NEWS AND RESEARCH



## NO-DIG LOSES ONE OF ITS PIONEERING FIGURES – DONALD FRANK REES 1918-2010

It is with sadness that we must report the death of Donald Rees OBE, who recently died in the Algarve, Portugal at the age of 91. He was a much-acclaimed engineer and businessman and pioneer of the No-Dig (trenchless) industry. Ironically, many of his innovative engineering achievements remained hidden. Not so his devotion to his family, which throughout his career was always paramount.

He was born in South Wales, the youngest of three children. His father was an ambitious Cockney with a great sense of fun. His Scottish mother was warm and easy-going, a balancing force. Donald inherited all these characteristics.

Growing up in Cheltenham and London, he exuded enthusiasm despite the aftermath effects of the World War I, the hardships of the Great Depression and the approach of World War II. He revelled in the advent of domestic electricity, wind-up phones, Al Jolson on the wireless and dancing to big bands in the Hammersmith Palais.

A mischievous student at Cheltenham College, he had hopes of studying engineering at Cambridge University. At his father's suggestion, he opted instead for the 'University of Life', a decision he never regretted.

During World War II, he commanded a unit of the Royal Engineers in India, Burma and Malaya. On returning home, he found that his father's road surfacing company had been decimated by wartime exhaustion and austerity. With typical forward-looking boldness, he took on the challenge of reinvigorating and modernising the business.

On first encountering Mary Smith, an 'utterly gorgeous' nurse working in the General Hospital in Brighton, "I could not resist approaching her and inviting her to have tea with me," he recorded in his diaries. "She said she would be delighted." They married in 1947 and moved to their first 'dream house' in Horley, Surrey.

Donald and Mary had six sons, and they needed increasingly large properties to accommodate the expanding family. The main family home for most of their time in England stood next to the 18th tee of one of the world's most celebrated golf venues, the West Course at Wentworth.

Meanwhile, Donald was greatly expanding his father's business by undertaking public works underground as well as at street level. Under his guidance, the company developed innovative methods of restoring old, and in some cases bomb-damaged, sewage systems. The traditional repair techniques involved roads being dug up, causing delay and disruption, but Donald and his colleagues developed 'No-Dig' tunnelling techniques based on the Rees Mini-Tunnel; they also pioneered the use of close circuit television cameras in subterranean investigations. As a leader in its field, the company's services and products were much sought after not only across the UK and the Channel Islands, but as far afield as the United States, South America and Southeast Asia.

Commenting on the news of Donald's passing, Dec Downey, current chairman of the International Society for Trenchless Technology (ISTT) said: "Donald opened the first No Dig Conference in



Donald Frank Rees 1918 – 2010.

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London 1985 posing the question 'Is there a NoDig Future?' Along with other founders of ISTT he worked to establish that future; he helped organise the 1987 Conference and served as an ISTT Guarantor for almost 20 years, submitting thought-provoking contributions long after retiring to Portugal. His contributions to pipeline investigation and pipeline construction were also significant. He is remembered by pipe jacking and tunnelling pioneer James Thomson who shared the platform with him in 1985 as a tough competitor and a visionary innovator; they shared knowledge of many successes and failures and became firm friends in the process, exemplars of the ethos of UKSTT and ISTT."

Looking Donald's contribution to the inception of the 'trenchless' industry, Ted Flaxman, founding chairman of ISTT, said: "I first met Donald Rees many years ago in connection with a job in King's Lynn where some particularly challenging deep construction near the ancient Custom House involved the use of his firm's Mini-Tunnel, an innovative technique for small size tunnelling. We were delighted when he agreed in 1980 to join the small 'Working Party on Trenchless Construction' which was being formed by the Institution of Public Health Engineers. His contributions to the deliberations of that body were lively and constructive and occasionally hilarious. After the Working Party had reported to the Institution it was decided to initiate in 1985 'An International Conference and Exhibition on Trenchless Construction for Utilities' in London. At several meetings we wrestled with the problem of coining a shorter, snappier, title for the event and it was Donald Rees and James Wishart together who eventually came up with the 'No-Dig' title which has continued in use by the industry ever since."

Donald made a major contribution to that first, very successful, No-Dig Conference in 1985 and he later took an important part in the follow-up which resulted in the formation of ISTT in 1986.

Ted went on to say: "Donald's irrepressible character was well and truly illustrated two years ago when he reached the grand old age of 90. Joan (Mrs Flaxman) and I had never actually visited his home in Portugal, despite repeated invitations, but he sent us a very professional DVD recording the THREE happy parties which took place on separate days to celebrate the occasion. On the actual date of his birthday we sent him an email of hearty congratulations. The reply we received showed that, despite the advancing years and the loss of Mary, he had not lost any of his zest for life. Donald was a splendid character who will be long remembered for his innovative thinking and warm friendliness."

As a liveryman and later Master of the Worshipful Company of Paviers, a Fellow of the Institution of Public Health Engineers and a Companion of the Institution of Civil Engineers, Donald was adept at cultivating business contacts and marketing. In addition to an impressive array of industrial awards, including Design Council Awards for the Mini-Tunnel and CCTV Camera System, and the Queen's Award for Industry, he was honoured with an OBE for his services to British exports.

Attracted by its mild climate, Donald and Mary built a charming house in the Algarve, near Porches, for their retirement in 1983. They were relatively early members of the expatriate community there, and Donald was a keen participant in the fledgling AFPOP (Association of Foreign Property-Owners of Portugal) and a regular supporter of local Royal British Legion events. After 55 years of marriage, Mary died in Portugal in 2002. She had been Donald's constant inspiration, and he often told friends: "not a day goes by in which I do not feel her loss sorely."

After a short period of poor health and with family at his bedside, Donald died at home near Algoz, in the early hours of 18th April 2010, the day before his 63rd wedding anniversary. He will be sorely missed by his six sons and their families, including 11 grandchildren and 3 great grandchildren.

### SUN, SAND AND SALES ENQUIRIES FOR TT-UK/MIDDLE EAST

With continued focus by TT-UK (part of the TT Group) to expand its Middle East operations, the 2010 Trenchless Middle East exhibition proved once again that promoting the very latest equipment in Trenchless Technology is fast becoming the preferred option for Utility and Gas & Oil Pipeline installations, designed to keep traffic on the move and disruption to a minimum.

Attended by product specialists from TT-UK supporting its resident Middle East sales partners, visitors saw the launch of many new innovative and exciting Trenchless Equipment products including the latest XP generation range of HDD equipment which offers quieter yet even more powerful performance together with an on-board digital display and critical bore data storage system.

Also on display for the first time in Abu Dhabi was the new Grundobore 400 Steered Auger Bore system for installing pipes up to 406 mm o.d. featuring the latest laser alignment system for

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steerable, accurate, fast pilot bores. Other Trenchless equipment on display was the popular Grundoburst, the static on line pipe bursting equipment with the unique QuickLock rod system - four models 400G, 800G, 1250G and 2500G are available for replacing size for size and upsizing leaking sewer, water, oil and gas pipes from 50 mm to 1,000 mm, as well as the world renowned Grundomat Soil Displacement Hammer .



*Visitors to the TT UK stand at the Abu Dhabi event.*

The TT Group's outdoor and indoor exhibition stands attracted many visitors from across the UAE including visitors from close neighbouring countries such as Saudi Arabia, Egypt and Iran.

With many of TT's satisfied customers visiting the exhibition to discuss new business opportunities as well as many new order enquiries, TT-UK/TT Middle East looks forward to a bright future in the Middle East providing Trenchless Technology solutions and equipment service and support to all its existing and future customers. Website: [www.tt-uk.com](http://www.tt-uk.com)

## CMW ACQUIRES HAMMERHEAD

The Charles Machine Works, Inc. (CMW®), manufacturer of Ditch Witch® underground construction equipment, has acquired 100 percent ownership of HammerHead Trenchless Equipment, manufactured by Earth Tool Company, LLC (ETC) of Oconomowoc, Wisconsin, USA. This acquisition makes ETC a wholly owned subsidiary of CMW.



*Attendees at the Ditch Witch seminar.*

Hammerhead is a global leader in the design and manufacture of piercing tools, bursting systems, pneumatic hammers and horizontal directional drill tooling.

“Our decision to acquire HammerHead/ETC was based on our long-term, strategic commitment to grow our core business,” said Tiffany Sewell-Howard, CEO of CMW. “We plan to fully leverage Hammerhead’s products and expertise to strengthen our position in the water and sewer rehabilitation markets globally.”

HammerHead/ETC and the Ditch Witch® organisation both expressed excitement and confidence that the acquisition will ensure long-term sustainability and market leadership. “Both companies have spent years developing customer confidence in our brands,” said Brian Metcalf, CEO of ETC. “Joining together reaffirms a commitment customers can depend on.”

In other news from the Ditch Witch camp, the organisation recently launched Ditch Witch Safe, a new safety program designed to meet the ever-present need for timely, substantive safety information for crews working on jobsites on a daily basis.

At the heart of the program is a library of ;Safety Matters’ training and information sheets. Available in both Spanish and English, Safety Matters sheets can be used in classroom settings, safety meetings and even on the jobsite. They address a wide range of safety topics, including working in trenches/pits, safely transporting equipment, rollover protection, electrical strike education, and much more.

Safety Matters sheets can be downloaded at Ditch Witch Safe. In addition to Safety Matters topics, customers will find a growing number of training materials including safety tips, safety training videos, operator’s manuals and material safety data sheets (MSDS).

“The Ditch Witch Safe program was designed as a tool for Ditch Witch to provide more information to customers that will help them increase their ability to work safely,” said Susan Harmon, product safety coordinator for the Ditch Witch organisation. “We want to make it easy for customers to get the valuable information they need and be able to learn and review a variety of safety topics relevant to our industry. Our hope is that by making this information readily available,

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operators and crew members will be more educated and aware of their safety while they do their job each day.”

CMW also recently hosted an equipment seminar with Ditch Witch dealers at the Ditch Witch® Worldwide Headquarters in Perry, Oklahoma, USA.

Approximately 200 customers and dealers enjoyed activities which included a tour of the manufacturing facility and product demonstration. A full showcase of the Ditch Witch product line was presented.

A few of the NEW products that were showcased at the seminar included: The PR100 Pipe Bursting System; XT855 Excavator Tool Carrier; and the RT45 Trencher Website: [www.ditchwitch.com](http://www.ditchwitch.com)

## SP HOLDING LAUNCHES NEW WEBSITE

SP Holding is recently announced the launch of a brand new website, full of information on the 5 divisions of SP Holding Group. The new site has all of the information clients might need on the services, equipment, documentation, news and much more. Sections include: Drainage Services, Plant & Event Hire, Transport, Fabrication and Field & Farm, equestrian and the country pursuits store.

Due to the rise in demand for ‘No-Dig’ solutions to minimise disruption and damage to ground surface, SP Holding is investing in new technology to provide Trenchless Technology solutions to damaged manholes and pipes for large clients across Telford, Shropshire, the Midlands and beyond.

The website has a comprehensive section on all aspects of drainage services offered by SP Holding, including a section devoted to its trenchless technology or ‘No-Dig’ solutions such as:

- Manhole Rehabilitation
- Pipe Relining
- CCTV Surveys

Any feedback on the content of the site would be much appreciated. Website: [www.spholding.co.uk](http://www.spholding.co.uk)



*The Home page of SP Holdings' new website.*

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# PIPE JACKING, MICROTUNNELLING, TUNNELLING & AUGER BORING

For General Information on Pipe Jacking, Microtunnelling & Auger Boring [click here](#)



## AKKERMAN OFFERS NEW OPTIONS IN GUIDED BORING

The Akkerman team, continually committed to increasing the versatility of its products, recently launched several new components for the company's GBM equipment.

The Powered Reaming Head (PRH) upsizing kit for its Guided Boring Machine (GBM) system was one of these releases. The GBM accessory allows owners to bore multiple pipe diameters with just one set of 279 mm (11 in) o.d. thrust casings and augers. The base 356 mm (14 in) o.d. PRH unit features 406 mm (16 in) and 508 mm (20 in) o.d. increaser kits and corresponding pipe adapter rings to accommodate up to 508 mm (20 in) o.d. pipe. All PRH components rest on a customised rack for ease of transport and orderliness on the job site. The PRH front and rear sections can be launched separately to accommodate minimal diameter shafts. The PRH kit performs well with all Akkerman power packs and jacking frames.

The P150Q Power Pack provides hydraulic power to the GBM jacking frame and Powered Cutter Head (PCH) for smooth and efficient operation. The P150Q houses a 115 kW (154 hp) diesel engine. Its three load-sensing variable displacement axial piston pumps independently operate the jacking, rotation and PCH. It also features a 378 l (100 gal) fuel tank and 189 l (50 gal) hydraulic oil reservoir.

The Jetting and Lubrication pump underwent a design reconfiguration for enhanced compactness. It features independent hydrostatic flow connections, bulkhead connections for pressure and return lines and an easily serviceable open/close valve on the tank outlet. Customers may choose the 3,000 rpm, 7 kW (30 hp) diesel engine or 1,750 rpm, 7 kW (30 hp) electric motor. Each 1,230 l (325 gal) tank is positioned side-by-side on a pallet-like base. The 17,237 kPa (2,500 psi) high-pressure jetting pump assists the GBM system's excavation process by lubricating cutter bits and spoils. An in-line suction filter protects the pump from contaminants in the water. The maximum 1,034 kPa (150 psi) lubrication pump flows at 15 l/min (4 gpm) and features an agitator which mixes the lubrication quickly and keeps it consistent throughout production.

In other news from Akkerman, the company has positioned itself for sales in new markets with recently established representation in the Middle East, India, Russia and Singapore.

Agreements with Trenchers Land Digging & Filling LLC based in the United Arab Emirates, Asia Contech Ltd. of India, Intertorg Russia and ICE Far East in Singapore pioneer exciting prospects for Akkerman Inc. worldwide.

Trenchers Land Digging & Filling LLC of Dubai recently facilitated the sale of a complete Guided Boring Machine (GBM) system for a Kuwait contractor. This sale denotes the first GBM system sold in the Middle East as well as the most powerful pilot tube microtunnelling configuration available. The 4812A jacking frame with 200 t of thrust, 275T power pack, Powered Cutter Head and Jetting and Lubrication pump will install DN 300 to 1,000 mm pipes for drives up to 150 m long.

Asia Contech Ltd. of New Delhi, providing sales and service of Akkerman equipment in India, also represents trenchless companies American Augers, ASTEC and Trenchor.

ICE Far East of Singapore, a south east Asia office for International Construction Equipment (ICE) will represent Akkerman in this region.

Intertorg of Moscow, a US based company with expertise in the Russian trenchless market, has been a long-time dealer for Ditch Witch and previously represented Lovat, Soltau and MTS equipment.

Akkerman welcomes these organisations into its community of sales representatives. Tunnel Engineering Services in the United Kingdom, Ditch Witch of Australia, Virtual Engineering of Columbia and the Alinea Group of Mexico have been agents of Akkerman for many years. Additional representatives have been appointed in Egypt, Turkey, Bulgaria, Poland, Brazil, Italy and Pakistan.

Website: [www.akkerman.com](http://www.akkerman.com)



*Akkerman's new Powered Reaming Head.*

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# IMPACT HAMMER TECHNOLOGIES

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## MATURE TREE MOVED TO NEW SITE USING THE PIPE RAMMING TECHNIQUE

**U**Mole (a division of Vp plc, operating within Groundforce) was recently involved in an unusual pipe ramming project in Chigwell, Essex, UK.

The project being undertaken by a private client under the auspices and supervision of Essex County Council, involved the re-landscaping of a residential house side garden. In essence the landowner was in the process of converting the side garden to a building plot for which a new home valued up to £1 million was planned. Unfortunately the plot, on Manor Road in Chigwell, was effectively blocked by the existence of a mature tree. To obtain the necessary planning permission for the new house the Essex planning authority required that the mature tree be moved

to a new site where it could continue to grow without felling it or damaging it to the point it was no longer a viable plant. To achieve this, the private landowner brought in specialist contractor Ruskins Tree & Landscape Ltd.

Whilst various options are available to contractors when it comes to moving trees, the ground conditions in which the tree was originally growing were wet and sticky Essex clay. So, the technique chosen to try and move the tree to its new home utilised the compressible nature of the ground. The innovative idea was to create a 'floating' rootball which would retain the soil around the tree roots so that transplantation of the tree as a whole could be achieved with minimum disruption to the well-established root system.

Ground investigation was undertaken to establish first the extent of the tree's rootball area and also to ensure that no services ran through the rootball of the tree. Once this had been mapped, small access trenches of around 1 m deep were dug in a square around the tree. Into one of these trenches, which had been extended to over 8 m in length, an RSJ was positioned which was to be used as a guide channel. This channel was required to guide the steel pipes which were to be hammered into the ground beneath the tree rootball. To support the guide channel RSJ and to ensure that the steel pipes were all installed on the same level, railway sleeper were positioned across the ramming trench.

By installing the steel pipe support basement beneath the rootball it would create the floating rootball that would allow the tree to be lifted from its existing site and moved to a newly prepared site elsewhere.

### STEEL BASEMENT

To achieve the installation of the supporting steel basement it was decided to utilise a 100 mm (4 in) diameter ramming hammer, a Hammerhead piling hammer provided by U Mole, to drive some fifty four (54 No.) of the 8 m long steel pipes beneath the tree.



The Hammerhead Ramming Hammer used for this project was in fact a 98 mm (4 in) diameter impact hammer which is 162 mm long and weighing 62 kg. Powered by compressed air, in Essex using a hired compressor, the unit requires 1,926 l/min or 68 cfm air consumption at 7.7 bar air pressure. This configuration offers up to 370 blows per

*The hammer/steel pipe interface arrangement during the ramming operation.*



*Alignment of the steel pipes was achieved using the guide channel RSJ section in the prepared launch trench.*

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minute on the object being hammered. Reverse of the unit is achieved by making seven reverse turns of the compressed air hose during operation. In operation the compressed feed is fitted with a lubrication system to maintain working efficiency and to protect the moving part within the body of the hammer.

The steel pipes were aligned so that each butted against the steel pipes on either side of it to give effectively a solid steel base which would minimise loss of and maintain the integrity of the soil around the roots during the move.

Each pipe took, on average, around 8 minutes to ram into position. The whole steel basement installation took about two weeks to complete with sections of pipe being installed at different times to allow for other necessary site activities. Once installed, to aid the stability of the whole steel arrangement the steel pipes were welded to the guide RSJ. This completed the establishment of the floating rootball, making the tree effectively a free standing object.

Throughout the whole ramming obstacle was encountered. runs the steel pipe encountered the expected rootball. After any impact it might have on it was decided to pull back sharpen the lead edge to one root as it was believed future viability of the tree.

Also, throughout the works, site inspections were Council officials not only to the work but also because the generated significant interest engineers.

Ultimately the steel basement and the floating rootball were successfully established. This enabled the lifting ropes to be attached around the whole rootball base and the tree to be moved to its new home without incident. The client is now happy that the site is fully available for the new house development without loss of this mature tree.

Commenting on the project for contractor Ruskins Tree & Landscape Ltd, Keith Morley, managing director said: "This was our first ever attempt at this sort of project with this technique and we have been very pleased by the outcome. Our success here has opened up other possible jobs

on which a similar technique might be considered."

For U Mole the ramming hammer supplier, Mark Aspinall, regional sales manager said: "This was our first job using the pipe ramming technique to create a method of transferring mature established trees to a new site. This success in Essex will give us a sound footing on which to build and will allow us to target other customers in this field that may be looking to overcome similar situations. Website: [www.umole.co.uk](http://www.umole.co.uk)

*Lifting underway.*



*Stabilising of the rootball was achieved by linking the rammed steel pipes together using the RSJ.*



*Rope arrangements stabilise the lift.*

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# HORIZONTAL DIRECTIONAL DRILLING

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## HDD CONSTRUCTION OF NEW SUPPLY PIPELINES IN VENICE

The narrow lanes and numerous bridges in the lagoon city of Venice presented the entire construction team with a real challenge when installing pipelines to supply water and extinguish fires. With open installation options to be avoided where possible to prevent damage to roads, the SLM® RCplus pipes with protective coating used for the new supply pipelines were mainly installed using Horizontal Directional Drilling (HDD) techniques.

More than ten years after the terrible fire in Venice in which the old Gran Teatro La Fenice burnt down, Venice is the first city in the world to get its own pipeline specifically intended to provide water for fire fighting. This is because of all things it was a lack of water at the time of the fire that hindered the Venice fire service in putting out the fire quickly. The new bright red pipeline providing water for fire fighting is over 22 km long and comprises 125 mm and 225 mm diameter pipes. The installation is designed to prevent these kinds of catastrophes occurring in the future.

A new drinking water pipeline being laid next to the fire pipeline has a total length of 600 m of 400 mm diameter pipe is to



*The small start pits used with HDD installation reduced significantly the amount of road excavation required for the project.*

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# HORIZONTAL DIRECTIONAL DRILLING

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replace the now antiquated pipelines. egeplast Italia S.r.l., which was founded in 2005, was awarded the contract for both building projects by Veritas S.p.A., the public utility company responsible. The work was performed in cooperation with the pipeline contractor ANESE S.r.l. The installation work has been made more difficult not only by the 10 million visitors that come to the city every year, but also by the narrow lanes and numerous bridges in the City. "The latter, explained Daniele Cucchiarini (sales manager at egeplast Italia), "calls for the deployment of polyethylene pipes since almost no other materials have the same flexibility." Venice has been listed as a UNESCO World Heritage Site since 1987 which means that extra care needs to be taken during installation works such as these. Pipelines were inserted using trenchless installation wherever possible to protect the streets of Venice. Use of this modern technology not only permitted a reduced construction period but also guaranteed the minimum disturbance to traffic compared to open installation methods.

The SLM<sup>®</sup> RCplus pipes, with protective coating provided by egeplast Werner Strumann GmbH & Co. KG for this pipe system comprised a core pipe made from PE 100-RC is additionally protected against grooves and scratches by an abrasion-resistant protective coating made of mineral-reinforced polypropylene. This means that all damage is taken up by the protective coating not the core pipe. This property enables the pipe to be installed in the Venice soil using trenchless methods. At the time of writing ,construction work to install the drinking water pipeline has already been successfully completed, while the work to install the pipeline carrying water for fire fighting is scheduled to take until the middle of 2010. Website: [www.egeplast.de](http://www.egeplast.de)



*The red fire fighting pipeline (top) and (bottom) the new drinking water supply pipe both provided by egeplast.*

## NEW MANHOLE HDD DRILL WITH ROD LIFT

One of the aims of trenchless technology has been to develop the ability to use existing sewer manholes to lay networks for electricity, gas and water without the need to dig up roadways or front gardens of private properties.

Swiss producer of trenchless pipe and cable laying equipment, TERRA AG, recently developed such a manhole HDD drill that is able to undertake directional bores from manhole to manhole and from manhole to all nearby homes. At 0.8 m (2.5 ft) depth it is possible to lay telephone cables, at 1.2 m (4 ft) depth fresh water pipelines, and at 1.6 m (5 ft) depth gas or electrical power lines. This innovative pipe laying method was developed over a 2 year period in close co-operation with the French water supplier SADE.



*The new TERRA MINI-JET MJS 1600.*



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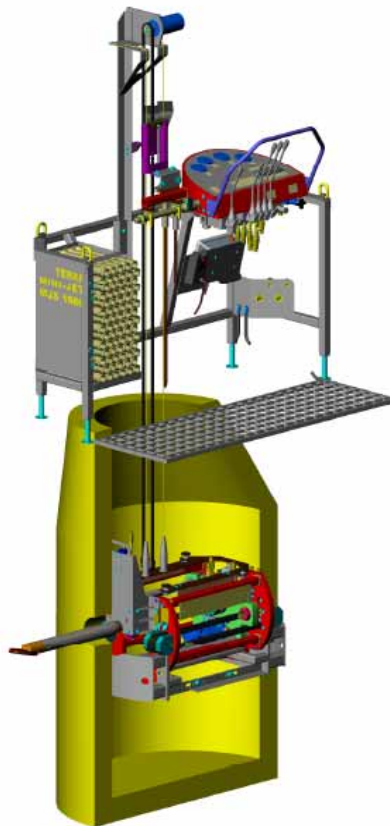
The TERRA MINI-JET MJS 1600 is a manhole HDD drill for directional bores in lengths up to 50 m (165 ft) with a minimum turning radius of 15 m (50 ft). The directional bore can be reamed in several steps up to 300 mm (12 in) even in hard ground. The TERRA MINI-JET MJS 1600 is equipped with a torque of 1600 Nm (1200 flbs) and thrust and pull back forces of 60 kN (6 t).

The MJS 1600 can drill from manholes with an internal diameter of 1.0 m (3.3 ft) and can fit through manhole entrances of just 0.62 m (25 in). Where the access is smaller than this, the manhole cover frame can be removed. First the drill's bed frame is lowered into place into the manhole and tightened hydraulically in position, thereafter the manhole drill is lifted vertically through the manhole cover and bolted onto the bed frame.

The entire operation of the TERRA MINI-JET MJS 1600 is controlled from the surface where the operator along with the control station, rod magazine and rod lift are positioned. There is no requirement to enter the manhole during drilling and back reaming work. The operator inserts a new drill rod into the rod lift. The rod lift transfers it down into the manhole and positions it in the drilling machine. The new drill rod is screwed into the last drill rod. Inductive sensors make this operation possible even where the operator does not have a view into the manhole. The rod lift may also be positioned at an angle over the drilling machine where the manhole entrance is not located directly on top of the drilling machine.

Drilling and back reaming takes place with bentonite drilling fluid pressure of 0 to 55 bar (0 to 800 psi) and drilling fluid volumes of 0 to 38 l/min (0 to 9 gpm). This makes the TERRA MINI-JET MJS 1600 a small but extremely effective horizontal directional drilling (HDD) machine. Website: [www.terra-eu.eu](http://www.terra-eu.eu)

**TERRA MINI-JET MJS  
1600 Manhole HDD**  
*System set-up above and  
within manhole.*



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# ASSET MANAGEMENT, MAPPING & SURVEY

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## C.SCOPE LAUNCHES PRECISION PIPE AND CABLE LOCATORS AND WINS TERM CONTRACT

C.Scope International Ltd, of Ashford, Kent, UK has officially launched the eagerly anticipated new MXL and MXT Precision Pipe and Cable Locating equipment. The MXL and MXT Locator kit features four, easy-to-use locating modes, multi-frequency signal output plus fast and accurate Depth Measurement and Signal Current Measurement. It is designed to detect, identify and trace specific buried pipes and cables, reliably and accurately, even in the most congested areas.

Hitting and damaging buried services when excavating can result in personal injury, costly repairs and disruption to work. The best way to avoid damaging buried services is to pinpoint their exact position, route and depth before work begins.

The MXL and MXT is truly a 'pick-up-and-go' locating package. Anyone who has used a Cable Avoidance Tool in the past will find the MXL and MXT units easy to use and will also benefit from the higher performance they provide.

The MXL features a great, new all-in-one AllScan Mode which detects unusual frequency signals present on pipes and cables as well as the conventional Power, Radio or Transmitter Modes. AllScan Mode can often speed up the locating process with just one sweep of the site.

The MXT Transmitter features four adjustable power levels and has three times the power output of some other Signal Generators thus providing longer distance tracing.

C.Scope is very confident that these new products will become a recognised industry standard for all personnel detecting and tracing buried services in the UK and abroad.

### CONTRACTS

Furthermore, C.Scope was also recently awarded major utility contracts with National Grid for a three year period, and has had its exclusive contract with British Telecommunications renewed for a further two years.

National Grid is a leading international energy infrastructure business - the largest utility in the UK. Through National Grid Gas plc it owns and operates over 6,800 km of high-pressure transmission pipeline across Great Britain, and 132,000 km of lower-pressure distribution gas mains in the North West, the Midlands, East Anglia and North London – more than half of Britain's gas transportation network, delivering gas to around 11 million homes, offices and factories. Through National Grid Electricity Transmission plc, the company operates the high-voltage electricity transmission network across Great Britain, and owns the network in England and Wales.

After extensive trials National Grid has selected the C-Scope MXL and MXT, as well as the C-Scope Plastic Pipe Tracers, Signal Clamps and CS880 Buried Cover Locator for all its Cable and Plant Avoidance Equipment needs across both electricity and gas sectors.

In addition to the MXL and MXT systems highlighted above, the C-Scope Plastic Pipe Tracer allows small diameter, non metallic pipes to be traced, and their ends located and the CS880 is an excellent tool to pinpoint to position of buried and therefore lost manhole and valve box covers.

British Telecommunication selected the C-Scope Cable Avoidance Tool, SGA Signal Generator, Signal Clamp, specially designed Duct Sonde and CS880 Buried Cover Locators for its exclusive supply contract three years ago, and has now renewed the contract for a further two year period.

The C-Scope Cable Avoidance Tool ZSCAT-33 is an industry standard locator which has carved a reputation as one of the most reliable and classic avoidance/tracing instruments in the utility industry.

Website: [www.cscope.co.uk](http://www.cscope.co.uk)



*The new C.Scope MXL (top) and MXT (bottom) Precision Pipe and Cable Locating equipment.*

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## DITCH WITCH RELEASES NEW ELECTRONIC TRANSMITTER

The Ditch Witch® organisation recently announced the release of the new 910T electronic locating transmitter.

The economical Ditch Witch 910T transmitter is used to apply a controlled signal to metallic pipes and cables, and is designed to be used with the Ditch Witch 910R receiver. In active mode, the 910T transmits via direct-line connection, induction clamp or induced broadcast signals. Together, the 910R and 910T offer an affordable locator package that helps customers efficiently locate buried telephone, CATV, power, gas and water lines with a tracer wire.



*The new 910T transmitter from Ditch Witch.*

The 910T transmitter comes standard with up to three frequencies of the customer's choosing. Frequencies are factory-set when the transmitter is ordered, and additional frequencies may be added. Available frequencies are 512 Hz, 1 kHz, 8 kHz, 29 kHz, 80 kHz. With simultaneous 8 and 29 kHz transmission, an alternate signal is available if one is hard to detect. The 80 kHz frequency is helpful in locating old tracer wires or pipes with insulators where low frequencies do not work well.

Each 910T transmitter also comes standard with direct-connect leads, a ground stake and 8 D-cell batteries. Website: [www.ditchwitch.com](http://www.ditchwitch.com)

## NEW CABLE AVOIDANCE TOOL LAUNCH IMMINENT

Every year site workers are injured due to inadvertently striking buried utilities such as electricity cables or gas pipelines. Obtaining accurate information about the location of buried utilities has never been more essential to protect employees and equipment during any construction project.

Cable Detection has been keeping site workers safe for decades with its leading cable avoidance equipment. In keeping with the company's aim to be the first choice provider of cutting-edge technology, it is proud to announce the upcoming launch of the i-Series cable avoidance tools.



*The new i-Series Cable Avoidance Tool from Cable Detection.*

## NEW FOR 2010

The current EZiSYSTEM product range has been extremely successful in the UK market for a number of years and has been significantly updated for 2010 with the launch of the new i-Series locators. Consisting of two models; the EZiCAT i500 & EZiCAT i550, the i-Series will replace the existing EZiCAT models in the coming months.

Whilst the exterior of the i-Series locators is similar to previous EZiCAT models, don't be fooled, beneath the rugged outer casing the electronic platform has been completely revised, based on an entirely new DSP (Digital Signal Processing) platform. The adoption of DSP delivers significant improvements in location precision and allows a number of intelligent features to be added to the product, all of which make location safer and easier than ever before.

One noticeable new addition to the product is a large, high contrast LCD screen, providing users with more information. It also includes a light sensor which automatically enables the vivid backlight in low light conditions, as well as a dynamic display area used for features such as service depth indication and numeric Sonde location.

Cable Detection's products are created with safety as guiding principle in the design process. As a result, many of the error-prone elements of detection have been removed and replaced with

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automatic controls – no more manual signal tuning. The i-Series locators also feature Depth Indication with the EZiCAT i550 featuring utility depth indication, when used in conjunction with the EZiTRACE or Sonde in 8 or 33 kHz modes. Operators can determine the depth of the buried utility, providing a clear advantage when conducting ground surveys.

Buried utilities close to the surface pose a significant safety risk to site works. The new Hazard Zone function provides an additional warning to the close proximity of buried services, alerting users to the immediate danger.

Pinpoint Assist maintains the highest peak reading obtained on the signal strength indicator for a period of time, allowing the operator to quickly and accurately pinpoint the service position.

Both the EZiCAT i-series locators can be purchased with the added benefit of Bluetooth wireless connectivity. It will allow the EZiCAT to integrate seamlessly with mobile mapping technology to log survey data.

The EZiCAT i-Series also features numeric signal strength readout, specifically designed for easy Sonde location. The highest number displayed indicates the exact position of the Sonde beneath the ground. According to Cable Detection sonde location has never been simpler.

Auto Mode automatically selects power or radio mode, helping to confirm the presence of services upon initial site occupation making cable detection easier and safer.

The new i-Series locators will be available from late June 2010. Website: [www.cabledetection.co.uk](http://www.cabledetection.co.uk)



*The information screen on the new i-Series Cable Avoidance Tool.*

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## HYDRAULIC CLAMPING RETROFIT AND PRODUCTIVITY COURSE

McElroy has introduced Hydraulic Clamping retrofit kits for the popular 500 line of fusion machines. The new introduction comes after a successful introduction of the same product for 412 and 618 fusion machines in 2009.

The Hydraulic Clamping kits are installed at local McElroy distributors or ordered preinstalled on new machines. Once installed, operators will find increased speed and productivity of the fusion process. Time usually spent manually clamping the knobs shut can be redirected to actually performing the fusion at hand. Also, workers on site will experience less fatigue by letting hydraulic power do the heavy work instead of hand-wrenching the knobs into position.

“Hydraulic Clamping is a customer-driven product,” said Chip McElroy, president and chief executive officer of McElroy. “Customers that knew our complete line of machines asked for this large-diameter feature to be introduced for our mid-range machines. We answered the call with this convenient and cost-appropriate clamping option.”

Besides the clamping benefits, McElroy engineers designed the clamping system with quick disconnect hydraulic fittings that allows a fusion technician to easily prepare the machine to fuse tees, ells and tie-ins.

The retrofit kit consists of a manifold block for the machine’s carriage that controls the two fixed jaw cylinders and two moveable jaw cylinders independently. The two inner-upper jaws are specific to clamping-enabled machines.

Furthermore, McElroy University, the training division of McElroy, recently announced the addition of a productivity-focused class to the 2010 class schedule. The inaugural class will take place May 17, 2010. Registration is currently open for the class.

For more than 30 years, McElroy claims to have been the only pipe fusion machine manufacturer to continuously offer advanced training to enhance fusion technicians’ efficiency, productivity and safety in the proper use of machines and standards. McElroy University currently offers 23 classes per year at McElroy’s technical centre in Tulsa, Oklahoma, USA. McElroy University also conducts training in the field at various locations throughout the world.

The classes cover topics from operation, troubleshooting and rebuilding fusion machines, ranging from small to large diameter pipes and fusion machines. With the addition of the new Fusion Productivity and Project Management class, McElroy University will offer a total of 10 different courses to the public. Classes usually occur over the course of a few days.

The new Fusion Productivity and Project Management course covers planning fusion projects. Topics include what equipment would work best in certain situations, setting up job sites for optimal productivity and integrating productivity-enhancing tools into a job site plan. As with all McElroy University classes, the majority of the training is hands on, with a small portion occurring in the classroom.



Hydraulic Clamping retrofit kits from McElroy.

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“This new productivity class was created in response to many of our end users, who are seeking to do more with less,” said Larry Gordon, manager of training at McElroy. “If we can teach more fusion technicians the best way to set up their job site, and work efficiently within that job site, it’s going to be much better for pipe fusion. The process is already fast, and with our techniques, contractors can definitely meet and beat more deadlines.”

The class parallels McElroy’s growing productivity tool line. Website: [www.mcelroy.com](http://www.mcelroy.com)

**Training classes at the  
McElroy University.**



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## UKSTT ANNUAL AWARDS DINNER 2010

An early start on the day for many on the council was rewarded by another overall excellent evening at the annual awards dinner in April.

The culmination of endless calls and emails by Val Chamberlain UKSTT administrator at Leamington Spa, and the ever increasing support from members and their associates, along with record numbers of entries, ensured the whole evening was a very real success.

A success not just for the winners and short listed entries but all the entrants feeling able and willing to prepare submissions for their projects or innovations for independent scrutiny by the panels of judges in a bid to promote their efforts to their colleagues in particular and the industry in general.

When addressing nearly two hundred members and their guests Colin Tickle, UKSTT chairman, offered his thanks to all the society's committee members for their support and hard work, finding time to particularly thank Val for all her efforts in general and her additional work, in Claire Gowdy's maternity leave absence, in bringing the whole awards event together. Steve Kaminik was thanked for editing and auditing all the presentation material for the evening.

Whilst thanking all the sponsors of various aspects of the evening Colin offered particular thanks to the evenings main sponsors, South West Water and Waterflow Plc.

Colin commented on the work of the society throughout the year with references to the most successful programme of road show's so far in the society's history, the expanded programme of university undergraduate lectures throughout the country and



*All the UKSTT 2010 Award winners with Chris Packham and Colin Tickle UKSTT Chairman.*

### Categories, Sponsors and Shortlisted entries for the UKSTT Annual Awards - Award Winners are highlighted

Category	Sponsors	Shortlisted Entries				
New Installation Large	Wessex Water	Balfour Beatty Utility Solutions – Exeter Link Main	National Grid Gas – Rossendale Reinforcement Scheme	Northern Ireland Water – Belfast Sewers Project		
New Installation Small	Bournemouth & West Hampshire Water + DynoRod	Lanes Group Plc – Blackburn City Centre Victorian Sewer Renovation	North London Gas Alliance on behalf of National Grid - London Strategic Medium Pressure Gas Mains Replacement Programme – River Thames.	Saint-Gobain PAM UK – ‘Shiny Green and Rarely Seen. – Replacement of Fulford Burst Main		
Renovation Large	Pipe Equipment Specialists	Barhale Construction Plc – Rhosferig Tunnel Relining	Insituform Environmental Techniques – Rehabilitation of Ballyogan Stream Culverts in Ireland	Severn Trent Water – Leicester Trunk Mains Renovation Project		
Renovation Small	U Mole	Denholm Pipecare – Leamington Spa Swage project – A Record Pull?	Onsite Central Ltd – Royal Train Yard Development utilises CIPP Patches & Lining to rehabilitate a concrete filled sewer	Saint Gobain PAM UK – ‘Shiny Green and Rarely Seen’. – Replacement of Fulford Burst Main		
Small Scheme	Jacobs + Severn Trent Water	Adien – Electronic Site Investigation, Sheffield BSF, High Storrs School.	Dyno Rod – PB12 and in2 save time and costs at Roakes Avenue	Lanes Group Plc - Middlebrook Cycle Track		
Innovation	Waterflow Plc	Anglian Water First Rehabilitation of a 200 mm diameter portable water mains pipe using the latest trenchless melt in place (MIPP) process.	Balfour Beatty Utility Solutions – Hydrant Cleaning System.	Barhale Construction Plc – Nant Pibwr Culverts.	Insituform Technologies Ltd – iPLUS Composite CIPP System Revolutionises High Strength Lining Capabilities	Kilbride Industrial – The Hydrascan Typhoon Water Mains Cleaning System.
Young Engineer	South West Water	Leanne Ford – Wessex Water	Carlo Pilia – TST Engineering			

in particular the support from John De Rosa and Sandra Rolfe Dickenson with the undergraduate lectures at Brunel University, the work by members on various national bodies and committees as well as the programme of trade show appearances to promote the society's work.

He also reminded members and guests of the forthcoming biennial 'No Dig Live' Exhibition and Conference at Stoneleigh between 5 and 7 October, 2010 with the associated plans for free breakfast seminars combined with the largest live demonstration arena in Europe.

Patrons also got a mention with appreciation for the support the society enjoys from these vital champions of the industry in particular welcoming the new Patrons for the current year – United Utilities, Severn Trent Water, and National Grid.

Colin praised the quality and number of entrants for the awards thanking the judges and co-ordinators for all their time so generously given and was delighted to report another record number of entries.



***Chairman Colin Tickle addresses the gathering.***

Conducted by Toastmaster and Master of Ceremonies, Norman Brown, the evening got off to informed introductions of the short listed entrants as well as a presentation from Chris Packham, with this year's animal surprise 'friend' turning out to be an American Bald Headed Eagle. With a wingspan of well over 2 metres Chris needed full arm protection and had clearly needed to be in training to manage the huge bird of prey throughout his talk.

In recognition of Chris' long term and ongoing association with the society Colin was delighted to announce that Chris had accepted our invitation to become an honorary 'Patron of the Society' and he made a presentation to Chris of a model impact mole and certificate to mark the event.

'Pink Strings' provided relaxed and delightful entertainment playing at the chairman's reception as well as various times during the proceedings. Whilst the after dinner speaker was not what had been expected the remainder of the evening once again provided the chance to applaud the successful entrants to the UKSTT Awards and to engage in some excellent networking opportunities .

Colin closed by thanking everyone for their support, wishing them well for 2010, and reminding them of next year's already planned awards dinner on Friday 15 April 2011.

The Chairman's chosen charity for the wards dinner raffle was the Royal Air Force Benevolent Fund. Close to Colin's heart, having served 17 years in the RAF and been personally involved in the Falklands and first Gulf wars, on his return he witnessed the work that is put in by the

charity to support serving personal and their families, and so was delighted to introduce Group Captain Geoff Ware, Regional Director of the RAFBF who spoke briefly but effectively on behalf of the charity. The raffle for a digital camera, donated by UKSTT, raised nearly £1,250.

The list of Short listed entries can be seen in the accompanying table with winning entries highlighted. Award winner and other evening photographs are available from [www.prestigephotography.co.uk/proofs/ukstt13614](http://www.prestigephotography.co.uk/proofs/ukstt13614)



***Chris Packham and 'guest'.***



## EVENTS AND MEETINGS



### NO-DIG ROAD SHOW SUCCESS

The NO-DIG ROAD SHOW 2009/2010 programme came to a successful close just before the Easter break, with the final two events held in Dublin and Belfast. Bristol and Wakefield were featured in the earlier part of the programme, with the Wakefield event sponsored by Yorkshire Water.

The 2009/10 programme featured the greatest number of exhibitors in its history, with 31 companies participating, the majority exhibiting at all four events. The combined visitor and delegate attendance exceeded 500.

The seminar programmes, compiled by UKSTT, featured a range of technology specific presentations, accompanied by local case studies, including a comprehensive presentation at the Irish events on the multi million pound Belfast sewers project.

“Despite the difficult economic climate, the industry has demonstrated its optimism for the future of trenchless technology by supporting these events, commented UKSTT’s chairman, Colin Tickle. “The seminars represent excellent value for those wanting to learn what’s new in the market and we are delighted that this year’s programme attracted some of the highest attendances in the ROAD SHOW’s history.”

The first ROAD SHOW programme was held in 1988 and continues biennially, approximately midway between the NO-DIG LIVE national exhibition, also held every two years. Organised by Westrade Group in conjunction with UKSTT, the objective is to keep the industry abreast of trenchless technology developments on a regional basis. The original formula, presenting a one day seminar and exhibition continues to be attractive to industry personnel who are able to attend a low cost and high value at a local venue. Website: [www.westrade.co.uk](http://www.westrade.co.uk) or [www.nodiglive.co.uk](http://www.nodiglive.co.uk)



*Visitors to one of the No-Dig Road Show events.*

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[www.nodigmedia.co.uk](http://www.nodigmedia.co.uk)

### INTERNATIONAL NO-DIG 2010 CONFERENCE ATTRACTS WORLD EXPERTS TO SINGAPORE

Conference papers from no less than 22 countries will be featured in the 28<sup>th</sup> INTERNATIONAL NO-DIG 2010 Conference to be held in Singapore between 8-10 November this year.

An overwhelming response was received from the Call for Papers and as a result delegates can expect to hear presentations on new innovations and technology, as well as case studies relating to trenchless technology projects from around the world.

“We were extremely impressed at the quality and range of papers offered for the Singapore Conference” commented Prof Sam Ariaratnam, Programme

Chairman and Vice-Chairman of The International Society for Trenchless Technology (ISTT). “The ISTT Conference has a reputation for bringing together the cream of the international community and delegates attending the 2010 event in Singapore will doubtless be impressed with the content of this year’s programme.”

The three day Conference is held in tandem with an international exhibition of equipment, products and services.

The exhibition space is already 90% sold with a high level of enquiries still being received from suppliers. National Pavilions are featured from Germany and Singapore. Other countries already represented by exhibitors include UK, North America, Denmark, Italy, Australia, Japan, UAE, China and Malaysia. Website: [www.nodigsingapore.com](http://www.nodigsingapore.com)



*Singapore's Conference Centre by night.*

# EVENTS AND MEETINGS



## 2010

May 2-7

**NASTT No-Dig Show** - Chicago, USA

Details from: [www.nodigshow.com](http://www.nodigshow.com)

May 4-6

**IFAT China** - Shanghai

Details from: [www.ifat-china.com](http://www.ifat-china.com)

June 1-4

**International Trade Fair and Conference for Trenchless Technologies** - Moscow, Russia

Details from: [www.nodig-moscow.ru](http://www.nodig-moscow.ru)

July 21-22

**IV Brazilian Congress for Trenchless Technology 2010 - No Dig Latin American** - São Paulo, Brazil

Details from: [www.abratt.org.br/nodig2010](http://www.abratt.org.br/nodig2010)

September 13-17

**IFAT** - Munich, Germany

Details from: [www.ifat.de/en/facts](http://www.ifat.de/en/facts)

September 27-28

**4th European Water & Wastewater Management Conference** - Leeds, UK

Details from: [www.ewwmconference.com](http://www.ewwmconference.com)

October 5-7

**No-Dig Live 2010** - Coventry, UK

Details from: [www.nodiglive.co.uk](http://www.nodiglive.co.uk)

November 8-10

**International No-Dig 2010** - Singapore

Details from: [www.nodigsingapore.com](http://www.nodigsingapore.com)

November 23-26

**Bauma China 2010** - Shanghai, China

Details from: [www.bauma-china.com](http://www.bauma-china.com)

## 2011

May 2-5

**International No-Dig 2011** - Berlin, Germany

Details from: [www.nodigberlin2011.com](http://www.nodigberlin2011.com)

## 2012

May 14-16

**International No Dig Show 2012** - São Paulo, Brazil

Details from: [www.nodigshow2012.com](http://www.nodigshow2012.com) (available soon)

If you have an event, course or meeting scheduled for 2010 or beyond and would like to add it to this listing please forward details to: [ian@nodigmedia.co.uk](mailto:ian@nodigmedia.co.uk)