Deadline: Thursday, January 10, 2013

NORTH AMERICAN SOCIETY FOR TRENCHLESS TECHNOLOGY

Joseph L. Abbott, Jr.

Innovative Product Awards

Does your company have this year's most innovative trenchless product/service in either NEW INSTALLATION or REHABILITATION?

Compete and be a winner as NASTT presents the Joseph L. Abbott, Jr. Innovative Product Awards in Washington, D.C.

NASTT annually recognizes two companies with state-of-the-art products in either new installation or rehabilitation for their achievements in advancing the trenchless industry. In October 2010, NASTT re-named these prestigious awards in honor of the late Joseph L. Abbott, Jr. Joe was an active member of the society since its inception in 1990. Recognized as one of NASTT's seven charter members, he also served on its Board of Directors from 2003 to 2007. Following his years of service, he continued to be involved at a high level. Joe was an exhibitor and supporter of all the NASTT No-Dig Shows, and he will be missed by the entire NASTT family.

APPLICATION PROCEDURES

No-Dig exhibiting companies may submit a separate application for each of the award categories. A separate application must be submitted for multiple entries in the same category. Award winners receive coverage in *Trenchless Technology* magazine, in NASTT's *Trenchless Today* magazine, recognition on NASTT's website and may freely use receipt of the award in conjunction with their corporate advertising and marketing.

The award winners will be formally recognized during the Annual Gala Awards Dinner, Tuesday, March 5, 2013, at NASTT's No-Dig Show in Sacramento, California.

Please complete this form and either mail, e-mail or fax to: NASTT, Attention: Michael Willmets, Executive Director, c/o Losi & Ranger, 7445 Morgan Rd, Liverpool, NY 13090. Fax: (613) 424-3037, E-mail: mwillmets@nastt.org. All applications must be received by **Thursday, January 10, 2013** for consideration. **Supporting documents are encouraged.**

E-mail this completed form to: mwillmets@nastt.org

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NORTH AMERICAN SOCIETY FOR TRENCHLESS TECHNOLOGY

Joseph L. Abbott, Jr.
Innovative Product Awards

COMPANY NAME Electro Scan Inc. BOOTH # 1001

CONTACT PERSON Chuck Hansen, CEO

Please provide a brief description of your product/service in one of the following award categories (other supporting documents are encouraged):

☐ New Installation ☑ Rehabilitation

Electro Scan ES-620 for Sewer Mains™ Finds All Leaks in Existing and Re-lined Pipes

Traditionally, sewer utilities have relied on Closed-Circuit Television (CCTV) to inspect and certify rehabilitation projects, prior to their acceptance by municipal engineers; however, a new technology referred to *as electro scanning* is providing the first automated process to ensure that re-lined and rehabilitated sewer mains are, in fact, leak free.

Using patent-pending technology that measures the variation of electrical current inside pipes, electro scanning is now available to independently test and certify newly relined and rehabilitated sewer mains and laterals, as leak free.

While CCTV remains a key factor in identifying pipe sags, misaligned joints, protruding laterals, and cross-bores, the reliance on visual observations has often led to incomplete or inaccurate sewer system diagnostics (See Figure 1), especially in identifying and quantifying sources of infiltration and potential leaks; especially in the acceptance of pipe relining, repairs, and new pipe installations.

Electro Scan revolutionizes sewer pipe condition assessment by using a low voltage, high frequency electric current to accurately identify, locate, and measure defects in sewer mains and laterals . Poorly relined service conditions, leaking seals above top hats, liner defects, and poor transitions at inverts, are just some of the defects identified by Electro Scan.

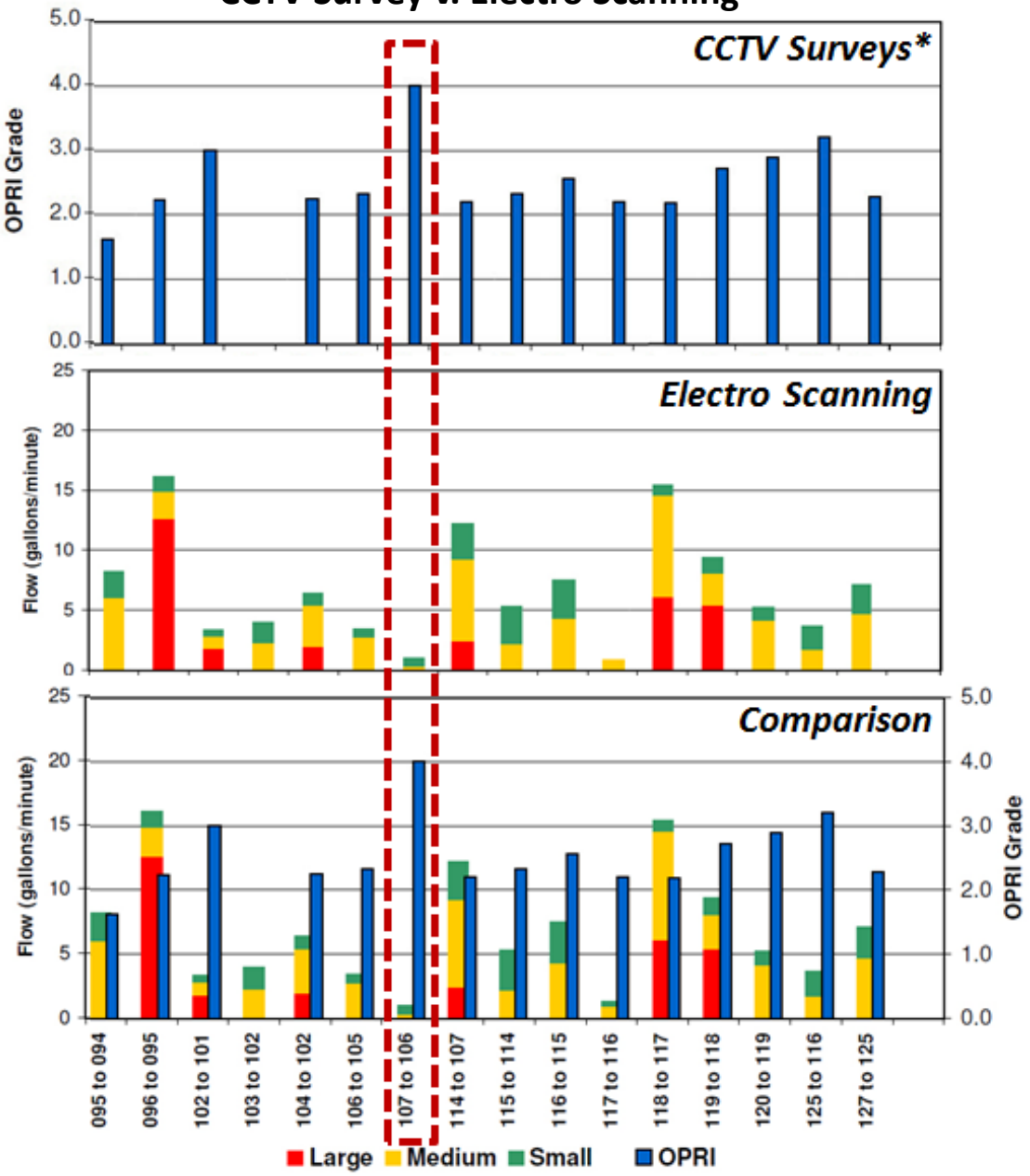
Able to assess 6-20” diameters mains, the ES-620 can allow sewer utilities to ensure relining and rehabilitation projects are delivered leak free.

(continued)

E-mail this completed form to: mwillmets@nastt.org

While CCTV inspection is typically conducted when a pipe is dry, Electro Scan assesses a pipe's performance under wet conditions. In fact, recent studies have shown that if you are using CCTV to identify and prioritize your rehabilitation, you may be relining the wrong pipes. Electro Scan can more accurately find defects in newly relined pipes.

Figure 1
CCTV Survey v. Electro Scanning



- *In accordance with NASSCO PACP CCTV Survey standards as approved and licensed by WRc.*

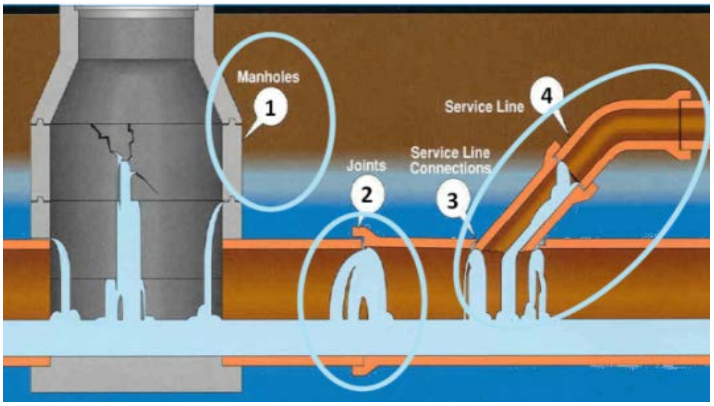
Source: US Environmental Protection Agency, EPA/600/R-11/078, July 2011, www.epa.gov/nrmrl

electroscaninc.

Fast Facts

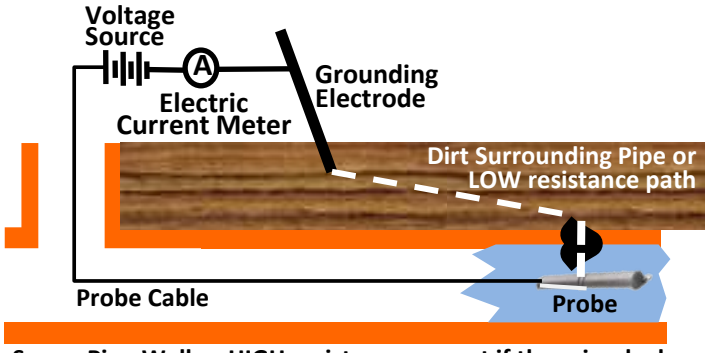
1. **What Does Electro Scan Do, That CCTV Cannot?** Answer*: Find infiltration*. Infiltration is a key factor causing Sanitary Sewer Overflows (SSOs) and Combined Sewer Overflows (CSO) caused by cracks & defects found in manholes, sewer mains, service connections, and laterals (Figure 2). Given the limitation of CCTV – i.e. not able to visually find leaks -- Electro Scan automatically finds , locates and estimates the amount of infiltration caused by defects. Electro Scan can also certify newly installed, recently repaired and rehabilitated pipe lining projects as "leak free" and can work year around, in dry or wet weather.

Figure 2 – Key Points of Infiltration



2. How Does It Work? Sewers are made of non-conductive materials (e.g. asbestos concrete, brick, clay, cement, plastic, reinforced concrete, etc.), so no electrical current should ever be able to "leak" or escape into the ground from inside the pipe – unless, of course, there is a crack or break in a pipe (Figure 3). Electro Scan's patent-pending technology releases a focused array of low-voltage high-frequency electrical current that locates and quantifies all defects.

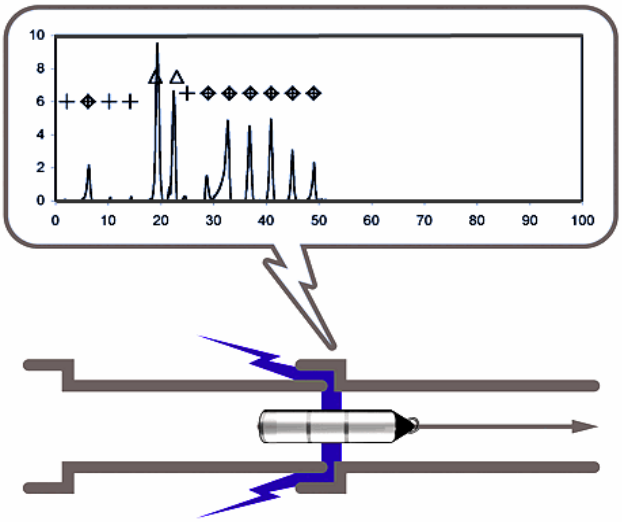
Figure 3 – Basic Circuit of Sewers



Sewer Pipe Wall or HIGH resistance, except if there is a leak.

3. Who Has Endorsed or Used Electro Scan? Electro Scan has been tested in numerous U.S. EPA studies and found superior to CCTV in finding the location and quantification of defects (Figure 4) that cause leaks. Electro Scan is the only company with products in compliance with ASTM Standard F2550-06. Winning international acceptance, Electro Scan has recorded nearly 1 million feet of scans in the U.S., England, Australia, and New Zealand, and represents the next generation in leak detection and certification of pipeline repairs & rehabilitation.

Figure 4 – Reporting Defects



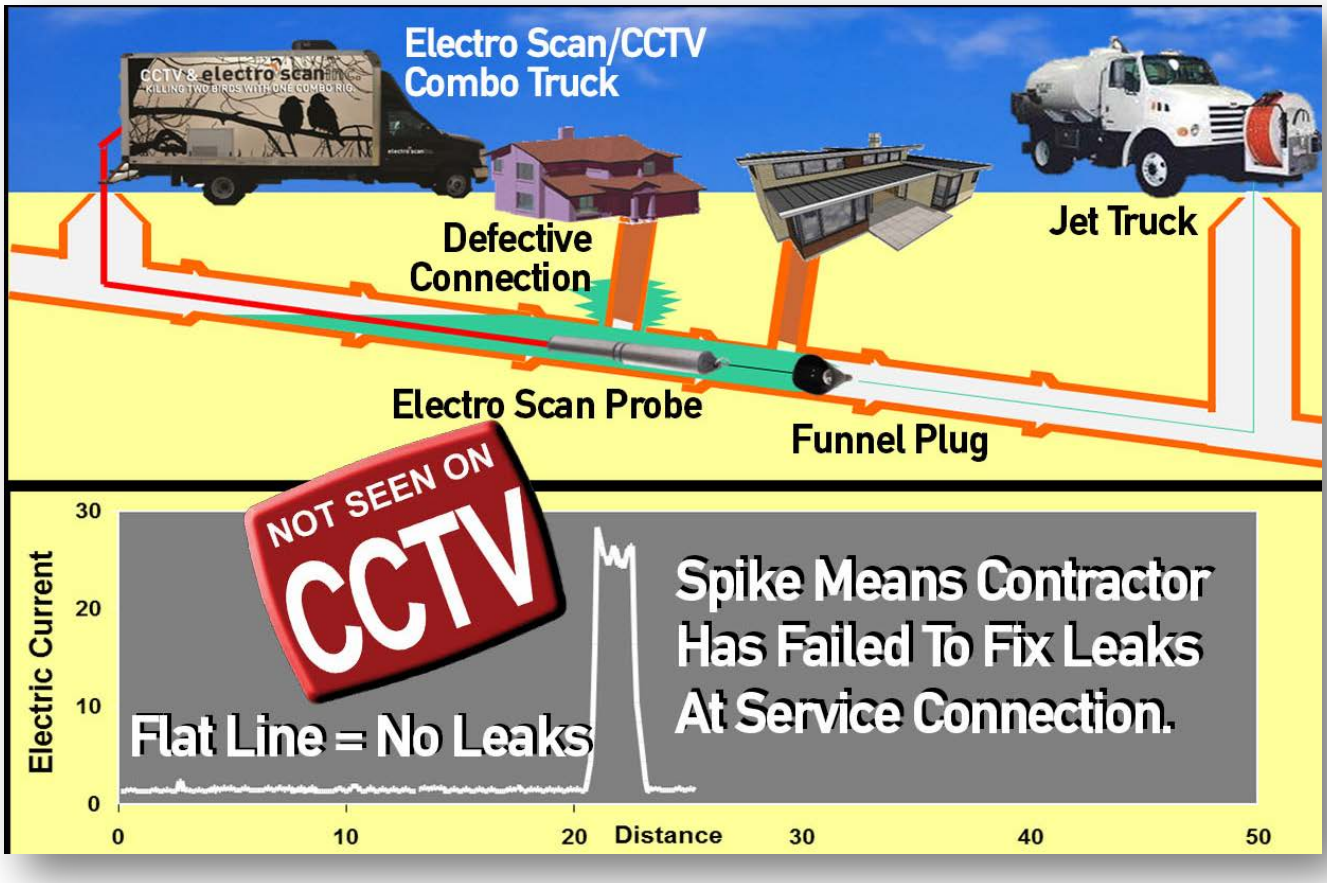
For Case Studies and Published Papers, Please Visit www.electroscan.com

Available as an add-on product to new or existing CCTV trucks, the ES-620 has been designed to "plug & play" with industry standard single or multi-conductor coax cable.

Utilizing an innovative Funnel Plug connected to a standard Jet Truck, a reservoir of water surrounds the Electro Scan Probe. Monitoring Speed (i.e. Pull Rate), Water Head, Water Pressure, and Data Integrity from a single scan, the operator is able to assess 6" to 20" diameters at the rate of up to 50 feet per minute, without stopping.

By surcharging water 2-3 feet up laterals, electro scan's low voltage current is able to quickly and easily assess service connections, in addition to detecting leaks just past a typical top hat.

Figure 5
Standard ES-620 Field Set-Up and Operation



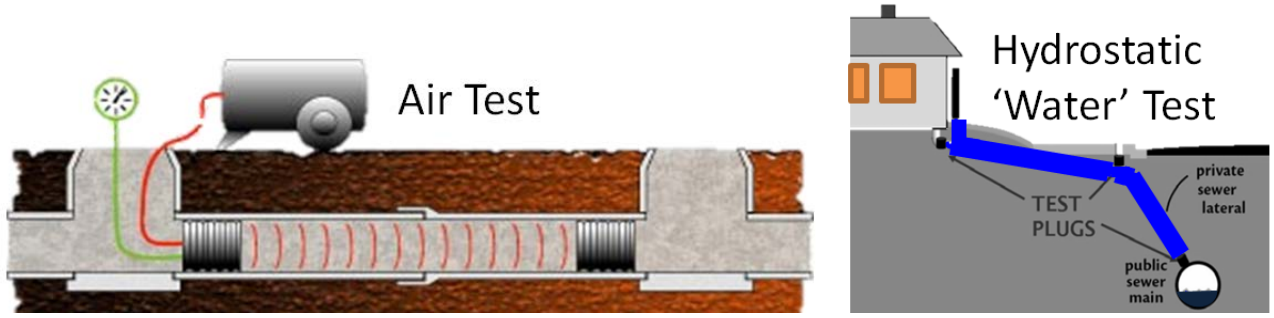
As benchmarked by EPA/600/R-11/078 and supported by ASTM Standard F2550-06, *Standard Practice for Locating Leaks in Sewer Pipes Using Electro-Scan–the Variation of Electric Current Flow Through the Pipe Wall,* Electro Scan changing how pipes are selected and prioritized for rehabilitation and how they are accepted by end users.

Electro Scan Identifies & Measure Specific Leak Locations

While Electro Scan has proven superior to CCTV inspection in locating defects that cause leaks, Electro Scan also overcomes the shortcomings of Flow Monitoring and Pressure Testing.

Flow monitoring has been a useful tool to gauge flow patterns in neighborhoods, basins, and sub-basins; yet, is unable to provide specific pipe locations causing dry weather infiltration. Similarly, while Air Tests and Hydrostatic 'Water Tests can provide PASS/FAIL of a pipe's overall integrity, neither can provide specific location and defect intensities, as Electro Scan can deliver.

Figure 6 – Tradition Pressure Testing of Sewers

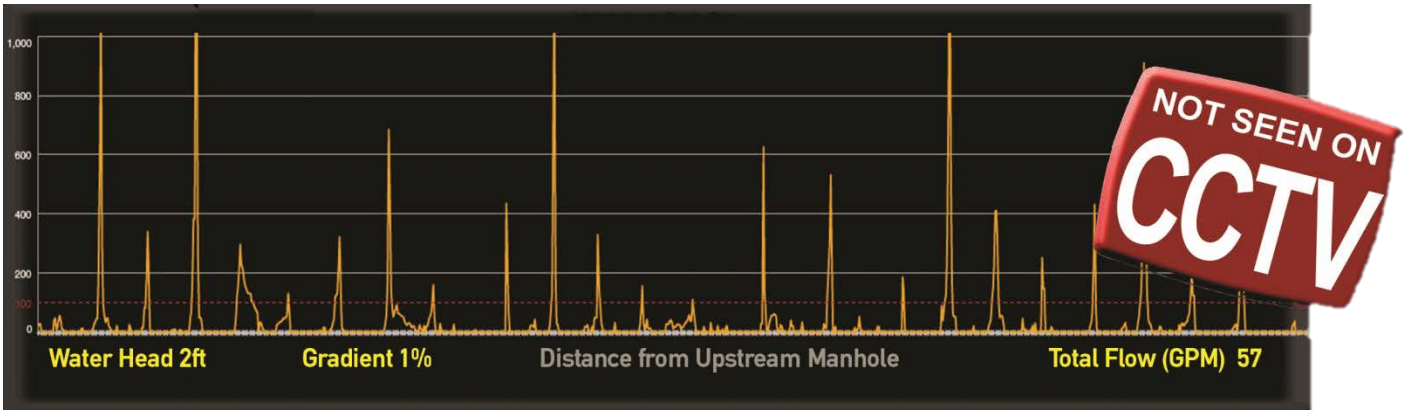


Calculating Gallons Per Minute (GPM) of Leak Potential

Finally, estimating the GPM of potential leaks, whether individual or total pipe segments, has eluded sanitary engineers for years; many times limited to estimating GPM using observations from Surface Dye Flood Testing and Smoke Testing.

Electro Scan changes everything; able to provide an automated, independent assessment of defect locations and measure an estimated gallons per minute of infiltration, given water head and gradient. Accurate to ±40% of actual amounts of infiltration, Electro Scan's groundbreaking GPM calculation forever becomes the preferred input to hydraulic modeling studies.

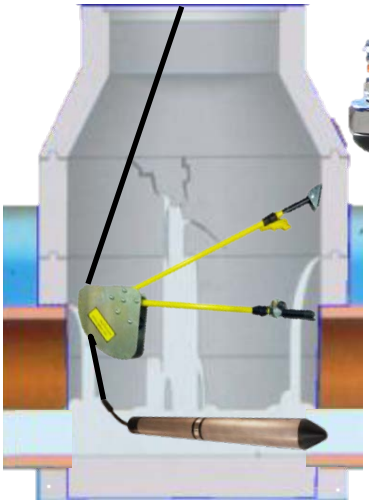
Figure 7 – Standard Reporting, Including Estimated GPM of Infiltration



electro scan inc.

Side Wedge Pulley
Optional

ES-620 Sold Exclusively as an Add-on to Your CCTV Truck.



Upstream Set-Up
Optional

Electro Scan Probe

Electro Scan Funnel Plug

Figure 8 – ES-620 Specifications

ES-620 for Sewer Mainlines	Pipe	Diameter Material	6 to 60 inch (150 to 1500 mm) Electrically non-conducting e.g. clay, plastic, concrete, reinforced concrete
	620 Probe (6 to 20 inch pipe)	Length Diameter	32 in (990 mm) 2.875 in (73 mm)
	Distance	Accuracy Resolution System	+/- 6 in (150mm) 0.5 in (10mm) Shaft encoder pulley coupled to cable
	Scan Speed		50 ft/minute (15m/minute)
	Scan Recorder	Smart Phone Operating System	via blue tooth with smartphone App Android 2.3
	Scan Processing & Reporting	Cloud Computing App	Transmitted via smart phone According to Support Plan with access at www.criticalsewers.com
	Power Supply	External	12Vdc 0.5Amp
	Environmental	IP 67 Operation Temp.	Withstand rain and low pressure wash down 25º to + 120º F (-4º to + 49º C)
	Warranty	Electronics	5 years
	Accessories (included)		Smartphone App Mandril 4" (6" & 8 " lines) Funnel Plug 8" Funnel Plug 6" Funnel Plug - Water Saver System 6 & 8" Cable Pulley - Top & cable cleaner Cable Pulley - Bottom Offset Jet Hose extractor Retrieval hook (20 ft) Ground Stake Probe Calibration and Ground Cable Reel:100ft(30m) Probe Reel to Ground Reel Connection Cable Operation Manual