



MAVERICK NEWSLETTER

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Talk Spotlight: Explosion Proof Video Inspections



Tip: Did you know that a nylon neck or hand strap on an EX or IS enclosed digital camera has the potential to generate a spark in a hazardous environment?

Explosion Proof Video Inspection Cameras: Why Maverick uses them

Maverick Inspection Ltd. leads the way in Canada as the most recognized service provider on using Class 1/ Division 1 and Explosion Proof video inspection systems for hazardous environments. In March of 2013, Maverick became the first service provider in Canada to offer dual certified video inspection equipment for hazardous environments with CSA approval.

Intrinsically safe equipment is usually light, compact and robust; everything we need for a portable device. So, why would anyone want to use explosion proof as a protection concept? The answer is simple: power. With an intrinsically safe system the entire power of the system - which includes but is not limited to the batteries – is controlled. This means that inductive and capacitive loads are also assessed to the extent that they cannot cause a spark.

By using EX systems as a protection concept, “high” power devices can be used safely in an explosive area. The EX video camera body itself is designed and tested to contain any explosion which may occur within, protecting the operator and the facility from harm.

From a basic design standpoint, an explosion proof device (D) must be able to withstand an explosion within the enclosure and allow escaping gas to cool as it expands and passes through the flamepaths transiting from inside the enclosure to the environment outside. These flamepaths are carefully calculated and manufactured to extreme tolerances in order to achieve the desired cooling effect.

EX purged and pressurized (Pi) video camera systems however, which are normally filled with an inert gas such as Nitrogen, are purged and pressurized enclosures that allow easy maintenance of the internal equipment and there is no limit to the power that can be supplied. The purge medium, usually nitrogen is used to keep the enclosure at a higher pressure than the outside of the enclosure (positive pressure) preventing the entrance of explosive gas. The pressure is monitored by internal sensors within the video inspection system that will observe any changes in the internal pressure of the certified body of the video inspection system. The added safety feature of the sensors included in the EX purged and pressurized video camera system is its ability to disable and de-energize the EX video cameras if pressure is lost in the video system.

Maverick Inspection Ltd provides both Class 1/ Division 1 and EX video inspection services to our clients to safely inspect sour gas pipelines, oily water sewers, flare systems, petrochem vessels, etc.

On a final note, service buyers should be wary on what is used in hazardous environments when dealing with electrical components. All electrical devices should be visibly engraved, stamped or labeled showing the EX markings with the certification of compliance documentation prior to introducing them to a hazardous environment.

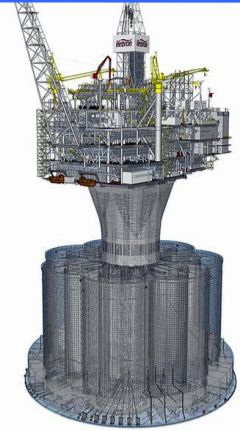
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RVI – Exxon Hebron Project – Drainage Lines



Maverick Inspection Ltd. was present during the first stage construction on the Exxon Hebron 1 .2 million barrel capacity off-shore rig in Bull Arm, NL. The scope of the work on the gravity base structure was for Maverick to video inspect several kilometers of small diameter soil and skirt drainage piping prior to the concrete pour.

The base design and configurations of the newly installed drainage system piping were tied into multiple water headers, creating challenges for completing hydro-testing. Maverick provided an alternative solution using small remote robotic cameras to navigate through multiple elbows of the piping and to video observe the header pipe ligaments.



For more information on video inspection applications, please contact Ryan Brosda @ 780-467-1606

IR Leak Detection for Office Buildings & Homes

Home and office renovations, whether old or new create structural changes within or outside that may compromise the integrity of the original home or building design that controls and minimize heat loss. Infrared cameras have the capabilities to scan and to build IR profiles of homes and buildings to observe any changes that may create heat loss.

For more information on IR applications, please contact Ryan Cote @ 780-467-1606



GPR – Predictive Maintenance Programs



GPR Was Used to Help Develop Predictive Maintenance Programs at the Largest Shutdown in Oilsands History

In the spring of 2013, Maverick Inspection Ltd. was on-site at the largest shutdown in Oilsands History. Maverick performed Ground-penetrating Radar surveys over several operating units examining the site for unusual subsurface conditions. These conditions were observed, and used to prioritize and evaluate the existing predictive maintenance program, helping to direct the most urgently required assessments in the specific locations likely to require the most urgent attention. The formation of subsurface voids, saturation plumes, subsurface movement and similar factors were employed to best direct the use of Video Inspection tools which were then able to find weak-points in the system before any actual failure could occur.

For more information about ground penetrating radar, please contact James Harrison at 780-467-1606

Maverick Safety Program 1994 - 2013

Safety is an integral part of Maverick Inspection's daily operation. Our company safety culture was developed back in 1994 and we are pleased to announce 404,002 man hours with zero lost time injury or fatality.

Maverick is connected online with safety Compliance companies, including:

- ISNetworld
- CanQual
- ComplyWorks
- PICS



For information about Maverick's safety program, please contact Leslie Tessari @ 780-467-1606

Company Culture ♦ Safe Behaviour ♦ Accountability ♦ Safe Environment



HOW TO CONTACT US:

Phone: (780) 467 1606 Fax: (780) 467 9987

Website: www.maverickinspection.com

#22, 161 Broadway Blvd Sherwood Park AB T8H 2A8

