

# RD SCAN<sup>INC</sup>

INNOVATIVE OILFIELD SERVICES

## COMPANY DESCRIPTION

RD Scan Inc. is a Canadian company incorporated in 1997 that is privately owned by brothers Roger and Daniel Beaunoyer. As an innovative oilfield service company,

its patented technology developed in Canada provides the fastest, safest, and most accurate on-site oilfield tubular scanning system to service the oilpatch.



## COMPANY'S MISSION

The driving force leading to RD Scan Inc.'s success has been to constantly strive to exceed the customers' expectations of quality service helping to reduce costs and increase profits for oil producers. Our ongoing research and development program enables us to provide the latest leading edge technology and offer newer and better management information systems to help oil companies manage production wells effectively and efficiently. We thank our present and future customers for their

valuable suggestions throughout the years on how to better meet their needs, enabling us to do thousands of well scans per year for them. A need was identified, a system was developed, and results were accomplished leading to the success of a system that is continually fine-tuned and re-evaluated to meet the oil producers' needs.

## STRENGTHS BEHIND THE COMPANY

The uncompromised service is delivered by trained, dedicated, veteran technicians using fully self-contained mobile scanning units. Each technician has undergone an extensive standardized training program. Once graduated to field operations, our highly motivated technicians are confident and pride themselves on providing the best

professional services and attitudes of any tubing inspection service company.

A fleet of truck units located throughout Western Canada ensures timely deployment for on-site tubular scans to meet oil producers' needs.

## UNIQUE PROPRIETARY TECHNOLOGY



The heart of our service is the ScanNex® scanner. Based on magnetic flux leakage and flux deviation/redistribution principles with microprocessor controlled solid state sensor arrays, these units provide highly reliable and repeatable quality inspections. We, at RD Scan Inc., own and operate this exclusive technology.

The ScanNex® system was developed with the help of local engineering firms and with implementation suggestions from well service and major and independent oil companies, combined with many hours of personal hands-on experience. We develop, manufacture, service and maintain all our equipment to ensure the highest quality and integrity.

# RD SCAN INC.

RD Scan Inc.'s ScanNex® tubing scanner system uses the latest technology to provide the highest inspection quality at a very competitive price. A magnetic field is induced into the tubular as it is pulled through the ScanNex® unit. Detection shoes containing sensors ride on the outside surface of the tubing being scanned.



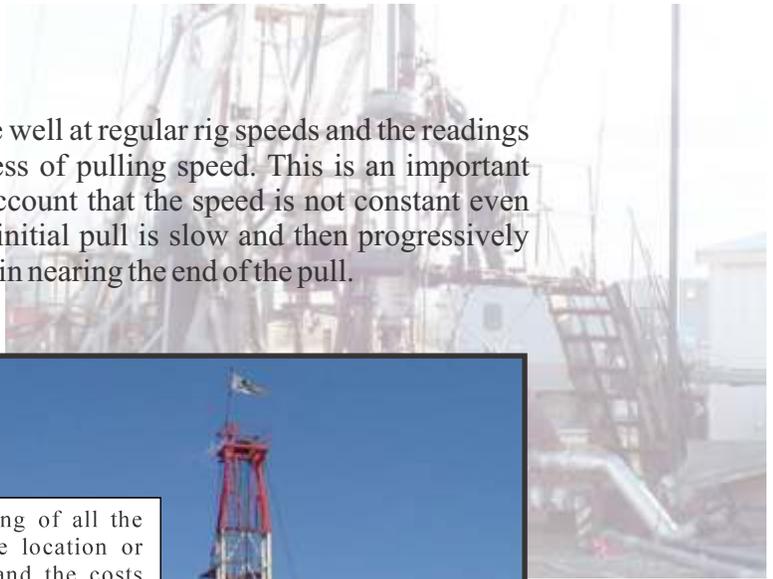
Magnetic flux leakage and deviation/redistribution caused by anomalies in the tubing are detected by the sensor arrays. The sensor information is sent to a computer in the truck where the data is analyzed, graphed, interpreted and stored. The ScanNex® patented technology

provides 100% circumferential coverage of the tubing and detects pitting, corrosion, wall erosion, cuts, holes, longitudinal splits and rod wear on every scan. Disposal, gas, and oil wells can all be accurately and safely scanned.

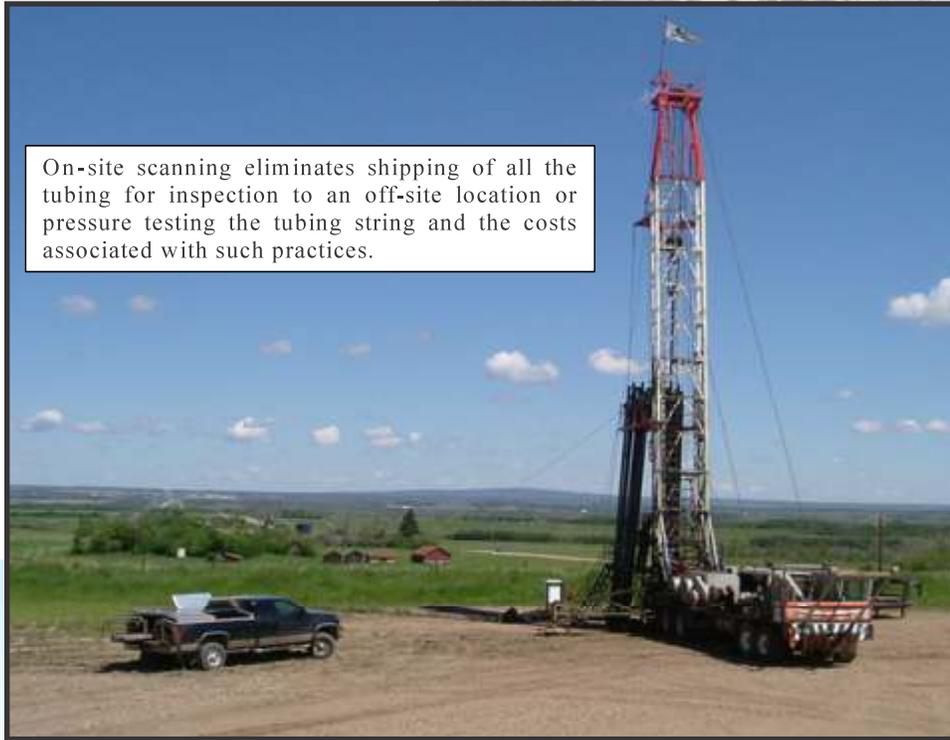
The ScanNex® computer software was developed to regulate the ScanNex® units and provides ongoing diagnostics of accuracy ensuring the integrity of the data.



The tubing can be pulled out of the well at regular rig speeds and the readings will be exactly the same regardless of pulling speed. This is an important consideration when taking into account that the speed is not constant even while pulling a single joint. The initial pull is slow and then progressively quickens and then slows down again nearing the end of the pull.



On-site scanning eliminates shipping of all the tubing for inspection to an off-site location or pressure testing the tubing string and the costs associated with such practices.

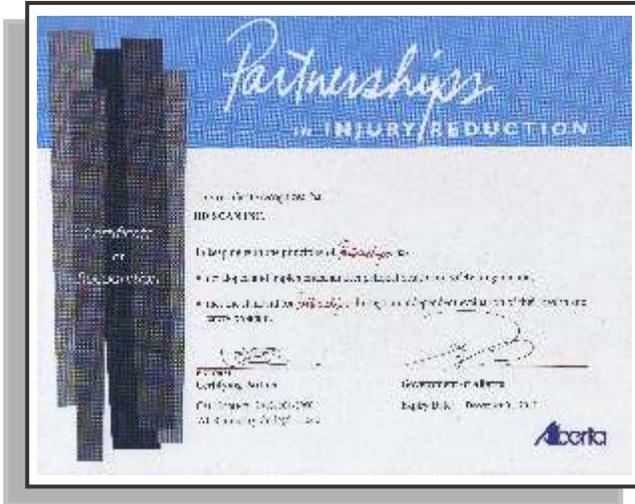


Since the ScanNex® scanners are light, they can either sit on the rig floor or partially/completely below the rig floor and sit on the gate of the slips having minimal or no impact on actual rig service jobs.



Tubing can be tripped through the ScanNex® scanner either coming out of the well or on the way in the well.

# SAFETY ISSUES



Our highly trained scanning technicians have First Aid, H<sub>2</sub>S Alive, WHMIS, and PST (Petroleum Safety Training). Regular internal and external safety audits are reviewed by experienced ENFORM certified auditors. This ensures that our safety standards and policies demonstrate a commitment to safety, thus warranting a Certificate of Recognition (COR) certification for Partnerships in Health and Safety.

Health and safety in the workplace is a major concern shared by all of us. The ScanNex® units were designed and constructed to meet or exceed Class 1, Division 2 CSA specifications. This certifies that the ScanNex® scanners are intrinsically safe to work in high risk environments.



No picker truck needed for setup means more space and less congestion at the well site. Less congestion and fewer people involved decreases the risk of injury/incident.

All equipment spacing is in accordance to strict EUB (Environment and Utilities Board) requirements.

# COSTS ASSOCIATED WITH OTHER METHODS

On-site scanning has numerous cost-saving advantages over other methods for ensuring tubing integrity.

## COSTS ASSOCIATED WITH OFF-SITE INSPECTIONS

- Increase public pressures concerning large volumes of heavy traffic on public roads.
- Increase manpower and costs associated with trucking.
- If the whole tubing string is sent off-site for inspection, then another whole string is needed to put down the well. Therefore, there is a great increase of tubing inventory required.
- Tubulars which are graded as green (31-50% wear according to API standards) at an off-site location are seldom returned to be put down a well thereby increasing the number of replacement tubulars needed. However, if scanned at the well-site, in many cases these same tubings can be strategically placed within the tubing string thereby extending the useful life span of the tubings.
- There is an increase rig time needed to lay down a whole string of tubing and to pickup a whole string thereby increasing rig costs. Also, there is an increase risk of an incident/accident occurring from having to manhandle such an increase in tubing volume.
- As a whole there is a higher inspection cost per meter of tubing involved in rack inspection than on-site scanning from RD Scan Inc.
- The tubings from a particular well and possibly many wells are mixed among themselves at an off-site facility. As such, there is no direct indication of wear patterns in the wells which otherwise could be immediately addressed after examining RD Scan Inc.'s on-site well profile reports.



## COSTS ASSOCIATED WITH PRESSURE TESTING THE TUBING STRING



- Pressure truck costs.
- There are increased risks associated with using high pressures to test the tubing.
- In a worn tubing string, the worst tubing will burst after which the tubing string will be pulled to remove that particular tubular. The other tubings will then be put back down the well and the pressure testing process will be

repeated until all the tubing holds a desired amount of pressure. Pulling the string out repeatedly to replace one bad tubular at a time will undoubtedly increase thread wear upon which an otherwise good tubular would have to be replaced due to bad threads. Furthermore, there would be a great increase in rig time and hence, cost, required to do this process.

- There may also be an increase cost if a vacuum truck is needed. If so, then rig time and cost also increase.

## BENEFITS OF USING RD SCAN INC.

### MAJOR RIG COSTS SAVINGS

As the clock ticks, money is slipping away every moment the well is down. The ScanNex® system helps minimize well downtime and minimizes workover costs. Taking the following factors into account translates into major rig cost savings.

- Since there is no warm-up or calibration times needed at the well site, our highly trained technician can set up quickly upon arrival at the job site.



- The ScanNex® unit is light enough for two people to handle and therefore, there is no need for a picker truck to lift the unit. The scanner is easily lifted onto the tubing by the rig's hoist line. Rig-in and rig-out times are typically less than 10 minutes and sometimes even less than 5 minutes. Furthermore, rig-in times are the same regardless if on vertical wells or high angle wells.

- The ScanNex® scanners are self-centralizing which means that the rig does not have to stop for realignment and recalibration.

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**FURTHER BENEFITS OF USING RD SCAN INC.**

Since RD Scan Inc. is a single man operation out of a ¾ ton pickup truck, this reduces congestion on the well site. Also, fewer people involved means less risk of an incident/accident.

We are able to scan 2¾, 2⅞, 3½, 4½, and 5½ inch tubulars (joints) containing fluid, sanded joints, inner lined tubing, and hardened and boronized joints.

Individual tubings are colour coded according to API (American Petroleum Institute) standards classification. A computer-generated coloured well profile report is provided at the well site allowing the supervisor to implement immediate corrective changes in the tubing string if necessary. Other relevant information gathered at the time of scanning such as the number of burnt threads and double collars are also provided on the reports.

We specialize in providing the best possible on-site inspection service, period. We do not sell tubulars nor do we profit from trucking of tubings and therefore, there

cannot be any conflict of interest. There is complete unbiased grading of the tubing.

Another major benefit of using RD Scan Inc. is our customers' access to our unique Management Information System (MIS) together with our on-site well profile report. These reports are excellent tubing string management tools that help oil companies manage production wells effectively and efficiently by:

- Being able to identify problem areas which can be addressed.
- Extending the useful life of the tubing string, which maximizes the tubular investments.
- Minimizing unexpected rupture of the tubulars. Predicting tubing life minimizes unscheduled well downtime.
- Being able to make comparisons of various programs such as well type, rod type, pump speeds etc.





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