

# HIGH PRESSURE IRON

## MACHINE HEALTH SOLUTION



### COST OF IRON FAILURES

**\$15K/hour**  
Downtime Cost

**3-12 hours**  
Downtime

**Priceless**  
Human Safety

### THE PROBLEM:

On a frac pad, all of the metal piping, known as iron, is under extremely high pressure (psi). This is necessary for operation, but poses a life-threatening risk when pressure suddenly changes or spikes. Each year, 100 people are injured from catastrophic iron failures.

**The good news?** KCF Technologies has leveraged over 75 TB of data in the oil and gas industry to create machine health monitoring algorithms that identify the **root cause** of high psi iron to prevent life threatening iron failures.



**200**  
Iron failure  
events per year



**100**  
Injuries  
per year

### ASSET CHALLENGES:

There are several inherent challenges related to monitoring high pressure iron.



**1. Vibration frequencies are undetectable by the human ear and eye.**

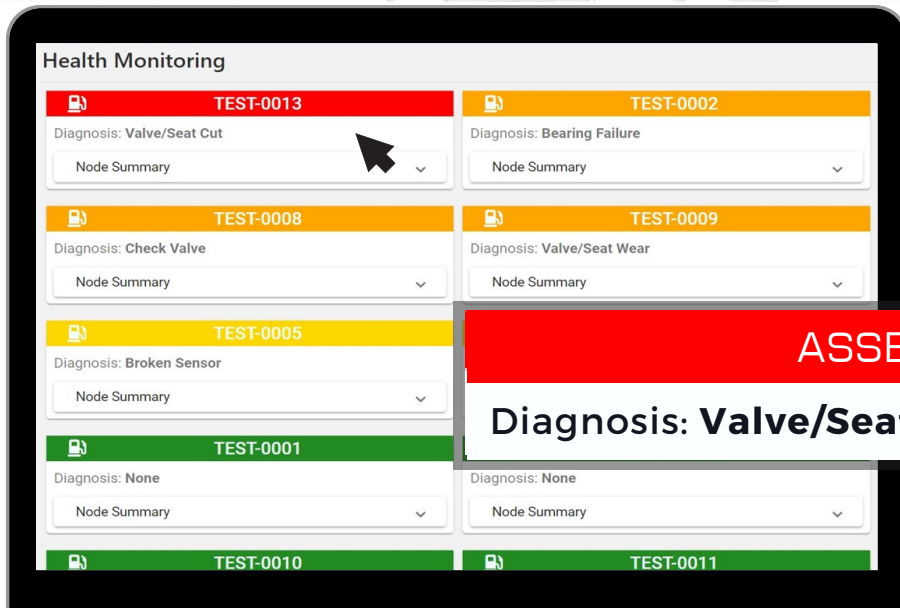


**2. High pressure iron is a symptom of another problematic asset. What is the root cause?**



**3. Time-based protocols do not capture actual inflicted damage.**

# COMPREHENSIVE MACHINE HEALTH SOLUTION



**MACHINEIQ:**  
Automated Fault  
Diagnosis

**ASSET #000**

**Diagnosis: Valve/Seat Cut**

## REAL-TIME DATA

With real-time data, you can identify and act quickly on the assets that are experiencing the most machine health degradation

## ACTIONABLE DATA

Simple dashboards make your data understandable. At a glance, you'll know which assets need your attention.

## >90% ACCURACY

With a constantly improving machine health algorithm, our MachineIQ software identifies machine faults with over 90% accuracy.

## TEAM OF EXPERTS

KCF SENTRYsolutions team are certified machine health analysts. They work with your team to help solve complex problems.

## OPTIMIZE YOUR OPERATIONS

We've helped other oil and gas companies reduce asset failures, optimize their business operations, save money, and save lives. **How can we help you?**



**100+**  
2019  
Prevented  
Iron  
Failures



**\$94M**  
2019  
Industry  
Customer  
Savings

"We have reduced catastrophic iron failures by over 90% since partnering with KCF. No longer do I worry about getting a phone call at 3am about an iron failure that could have seriously hurt one of our employees."

- US Pressure Pumping Executive

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