

**Introduction**

The M70 XP Moisture Monitor by Envent Engineering utilizes a heated conductive polymer sensor that provides a linear output of the moisture concentration in a natural gas stream (TDL is more commonly used). The purpose of this report is to explain how the M70 XP is comparable to its competitors and is more cost effective.

**M70 XP Moisture Monitor Description**

The M70 XP is a polymer sensor, stand-alone, explosion proof, moisture monitor with an attached desiccant based self calibration system. It is available with a sample system, as shown in Figure #1. This unit is configurable to calibrate automatically, at user define intervals (anywhere from once per hour to once per month). It has on board archiving to trend data, as well as user friendly interface.



*Figure# 1: M70 XP Moisture Monitor with standard sample system and auto-calibration*

**Moisture monitor pricing: M70 XP vs. TDL**

The cost for a moisture monitor using TDL or quartz crystal is approximately \$30,000. The cost of the M70 XP moisture monitor is \$10,000; this is three times more cost effective.

**Table #1: Moisture monitor price: M70 model vs. TDL model**

Model	Approximate Price
M70 XP	\$10, 000
TDL	\$30, 000

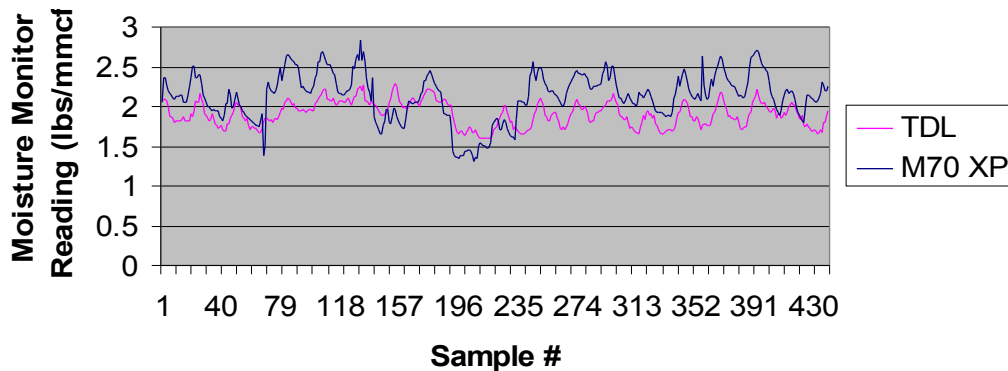
*Although the M70 XP is a more cost effective analyzer, accuracy should be strongly considered when choosing a moisture monitor. The following section compares results obtained from testing an M70 XP in parallel with a model using TDL.*

### Analysis of parallel field testing: M70 XP vs. TDL

Based on data collected every ten minutes for 455 hours, the M70 XP moisture monitor provided measurements within 0.5 lbs/mmcf that of a TDL model. The deviation between the two analyzers is under 2%. Please see Table #2 and Chart #1 for summarized testing data and visual representation, respectively.

Model	M70 XP	TDL
Average Reading	1.92	2.11
Average Difference		0.20
Average % Difference of 2lbs		1.72

**Chart #1: 455  
Hours of field data: M70 XP vs. TDL**



### Conclusions/ Recommendations

From a business perspective, accurate analysis is the most important factor when considering a moisture analyzer. Once accurate analysis is achieved, cost effectiveness becomes an important factor. The following points highlight the benefits of choosing an M70 XP over alternative moisture monitors.

- **There is less than 0.5lbs/mmcf difference between the M70 XP and TDL**
- **The M70 XP consumes minimal power (3 Watts)**
- **The M70 XP is Class 1 Div 1 certified where as TDL is only available for Div 2 applications**
- **The M70 XP is normally in stock**
- **The cost of a M70 XP is three times less than that of other analyzer**
- **The M70 XP is completely field serviceable**