

**METER ERROR REPORT****FINAL**

Reconcile?	Y
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Safety Issue?	N
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Thesis Report No.	
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**1. EXECUTIVE SUMMARY**

SITE NAME	Ross WM	
LDZ	WM	
START DATE (actual)	15 <sup>th</sup> December 2009 08:39	
LAST GOOD DATE	15 <sup>th</sup> December 2009	
END DATE	17 <sup>th</sup> December 2009	
SIZE OF ERROR (No reconciliation required if under 0.1%)	The daily breakdown of error is shown in section 3.	
ESTIMATE – Y/N?	N	
ROOT CAUSE	The error was caused by a faulty valve in the chromatograph.	
ANALYSIS	Detailed with this report.	
METER TYPE	Orifice plate	
AUTHOR	Piers Eldridge	
CHECKED BY		
RECONCILIATION	Distribution	Transportation

## 2. BACKGROUND

Gas is supplied to part of the West Midlands network, at Ross FWACV offtake. The site metering system comprises a single Orifice meter with an isolated bypass.

On the 15th of December 2009 the chromatograph failed to measure the correct composition for some undiscovered reason for a period up to 32 minutes. This caused the standard flow rate to be incorrectly calculated. The same fault occurred at 16:07 on 17<sup>th</sup> December 2009.

## 3. ERROR QUANTIFICATION AND IMPACT

The RBD data was reviewed before and after the chromatograph fault. The composition measurements prior to and after the chromatograph fault were averaged to estimate the actual composition reading during the period of the fault.

Using the orifrun with the 8 minute RBD and gas composition data the volume flow for the period of the fault was calculated. In each instance, the volume flows for the estimated composition readings were calculated. By comparing these calculated flows with the recorded flow over the period of the fault it was estimated that orifice metering system under-registered 2339.8 scm of gas.

Table 1 shows a breakdown of the daily error.

Gas day	Daily standard volume (scm)	Error (scm)	Correction factor
15/12/2009	627838	-1218.42	1.0019407
17/12/2009	512740	-1121.4	1.0021871

Table 1 Breakdown of the daily error.

The error would have had a minor affect on odourisation.

## 4. CAUSES

The cause of the chromatograph fault remains unknown.

## REFERENCES

ISO 5167  
HPMIS database

## VERSION HISTORY

<i>Version</i>	<i>Changes</i>	<i>Author</i>	<i>Date</i>
<i>1</i>	<i>Final</i>	<i>Piers Eldridge</i>	<i>18/12/2009</i>
<i>2</i>	<i>The over registration was changed to an under registration</i>	<i>Piers Eldridge</i>	<i>26/03/2010</i>