




# LAYERED PROCESS AUDITS

How to improve quality from the ground up ...



# Overview

- Quality history at Brampton Brick
  - The challenge
  - Layered process audits: background, structure and execution
  - Results and conclusions
- 



# Quality history at Brampton

- Up to early '90's mainly product compliance based testing
- ISO 9000 accreditation in 1994
- Purchase of Oaks Concrete Products in 2003
- Abandonment of ISO 9000 in 2008 for an internally developed, customer-centric quality system



The challenge:

How do we develop  
and ***entrench***  
a “customer-centric” culture?

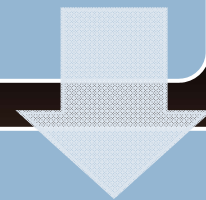
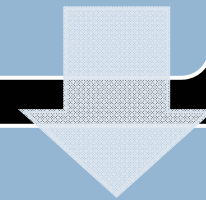


# The approach

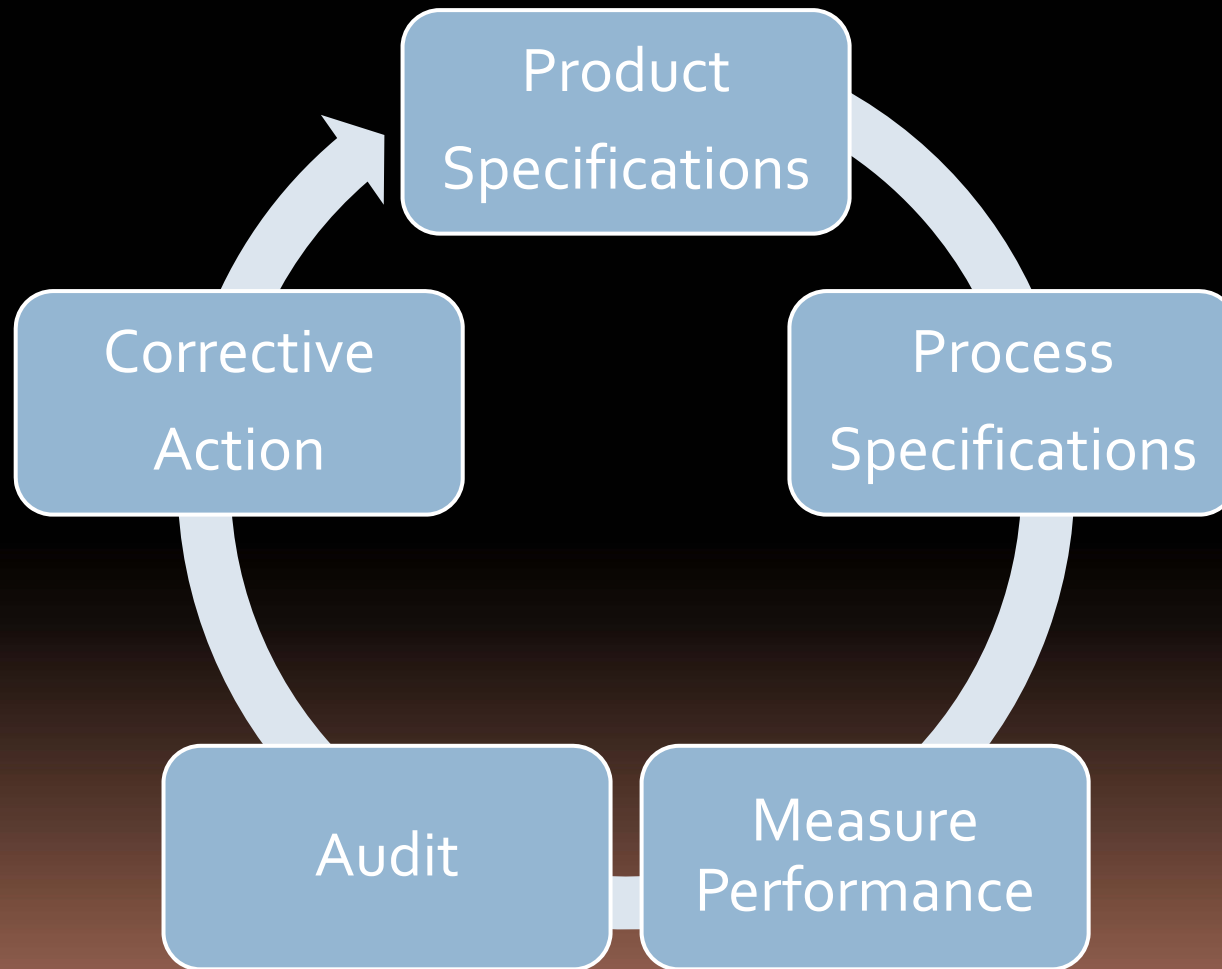
Understand what is important to the customer

Establish standards of performance

Monitor performance and improve



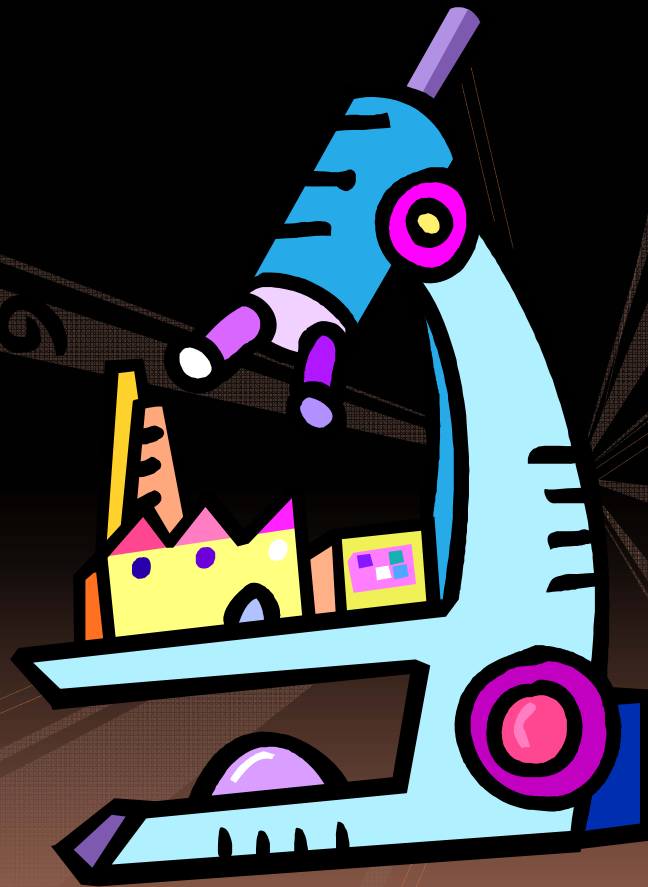
# Monitoring performance



# Why do we audit?

- 2<sup>nd</sup> law of thermodynamics
- Offer a different perspective
- Provide measure of improvement
- How do we relate the audit process to culture entrenchment?

# Layered process audits





# What makes them different

- Focuses on the **most sensitive** processes that impact the customer
- Are done daily
- Most importantly, it is shared by all levels of the company:
  - Senior Management: to show commitment
  - Supervisors: to show involvement
  - Shop Floor Employees: to build appreciation of the entire process

# Different from a checklist

- Audit is designed to obtain information, not check “yes or no” to compliance
- Auditor must write down specific information on specifications and test results

# Color room audit

Colour Room								
			Line 1		Line 2			
		Units	Actual	Specification	Actual	Specification	C	NC
1	Slurry Name #1							
2	Tank # being used							
3	Viscosity #1	cP						
4	Specific Gravity #1	g/ml						
5	Slurry Name #2							
6	Tank # being used							
7	Viscosity #2	cP						
8	Specific Gravity #2	g/ml						
9	Dry Colour Name							
10	Does Dry Colour Match Master							

# Kiln audit

Kilns								
		Units	Line 1		Line 2		C	NC
			Actual	Specification	Actual	Specification		
1	Panel Name							
2	Brick Size							
3	Run Number							
4	Car	#						
5	Hack							
6	Fired Brick Length	mm						
7	Fired Brick Bed Depth	mm						
8	Fired Brick Height	mm						
9	PUNDIT	uS						
10	Shell Thickness	mm		min. 19mm		min. 19mm		
11	Kerf Distance from Header	mm		79 mm		79 mm		



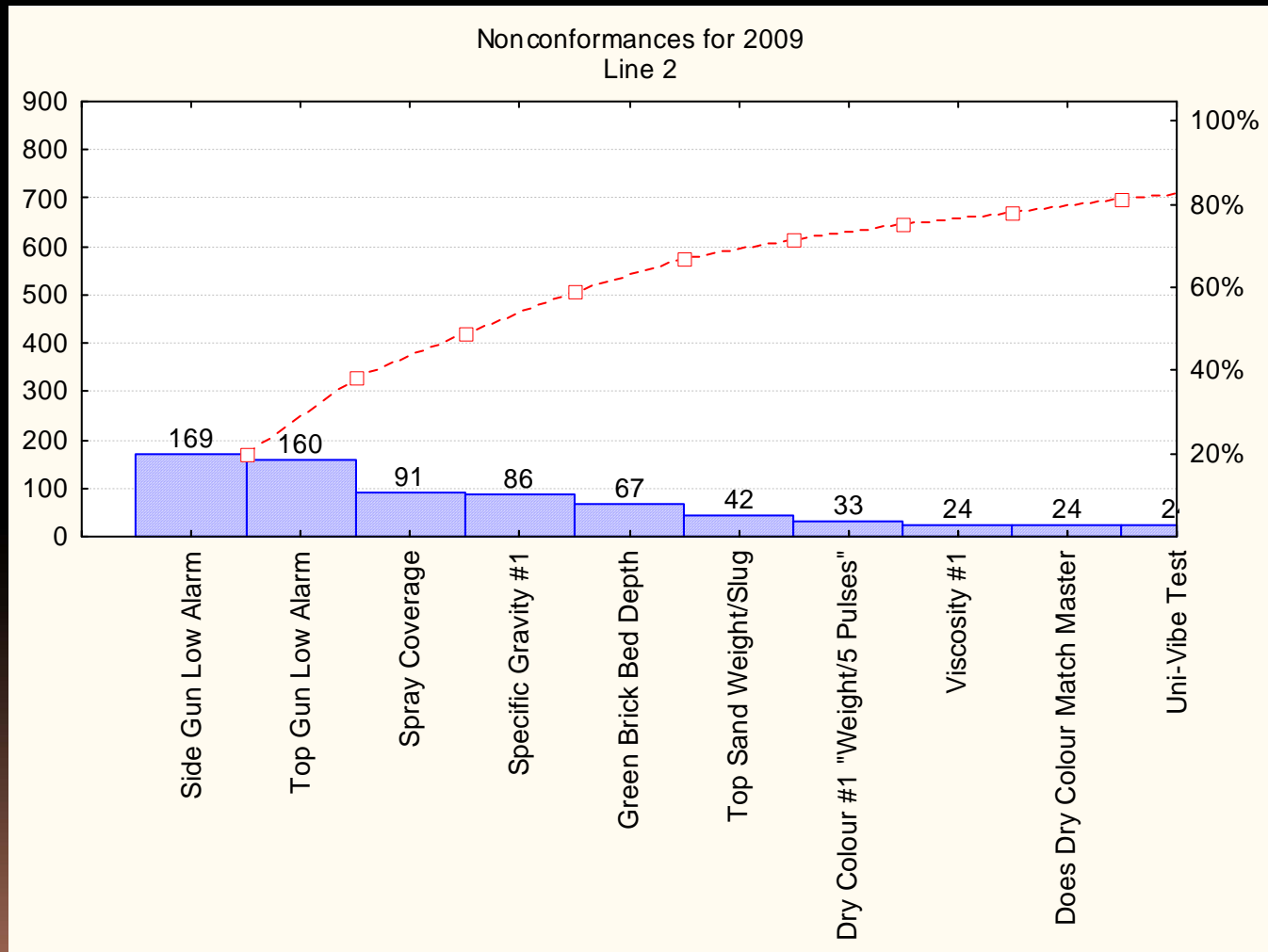
# Audit execution

- Daily: Operators perform audit on a section not under their control. All sections are audited daily
- Weekly: Supervisor audits a section with Operator
- Monthly: Plant Manager audits a section with Operator
- Quarterly: VP Production audits a section with Operator

# Audit results

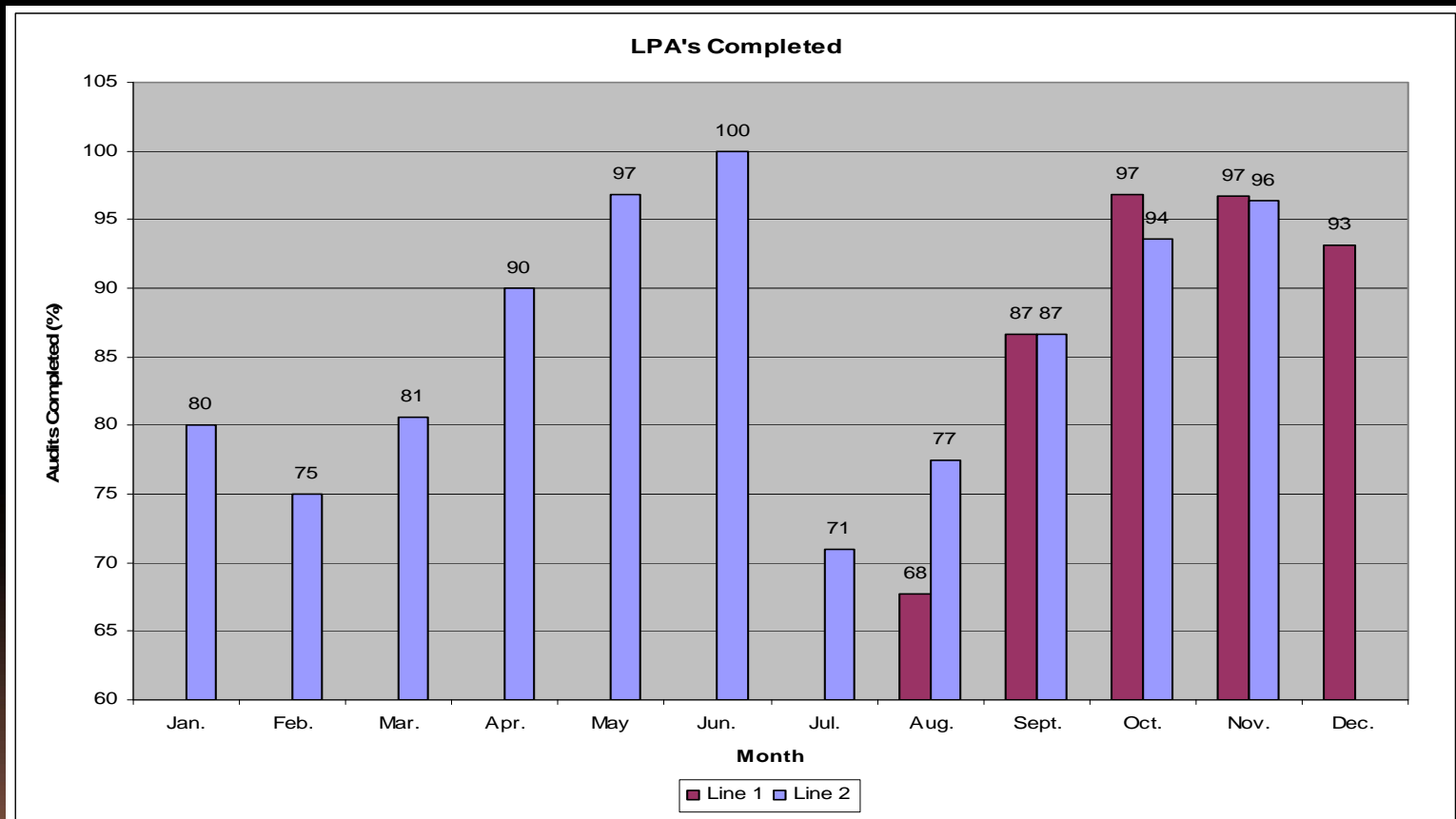


# LPA nonconformance by nature

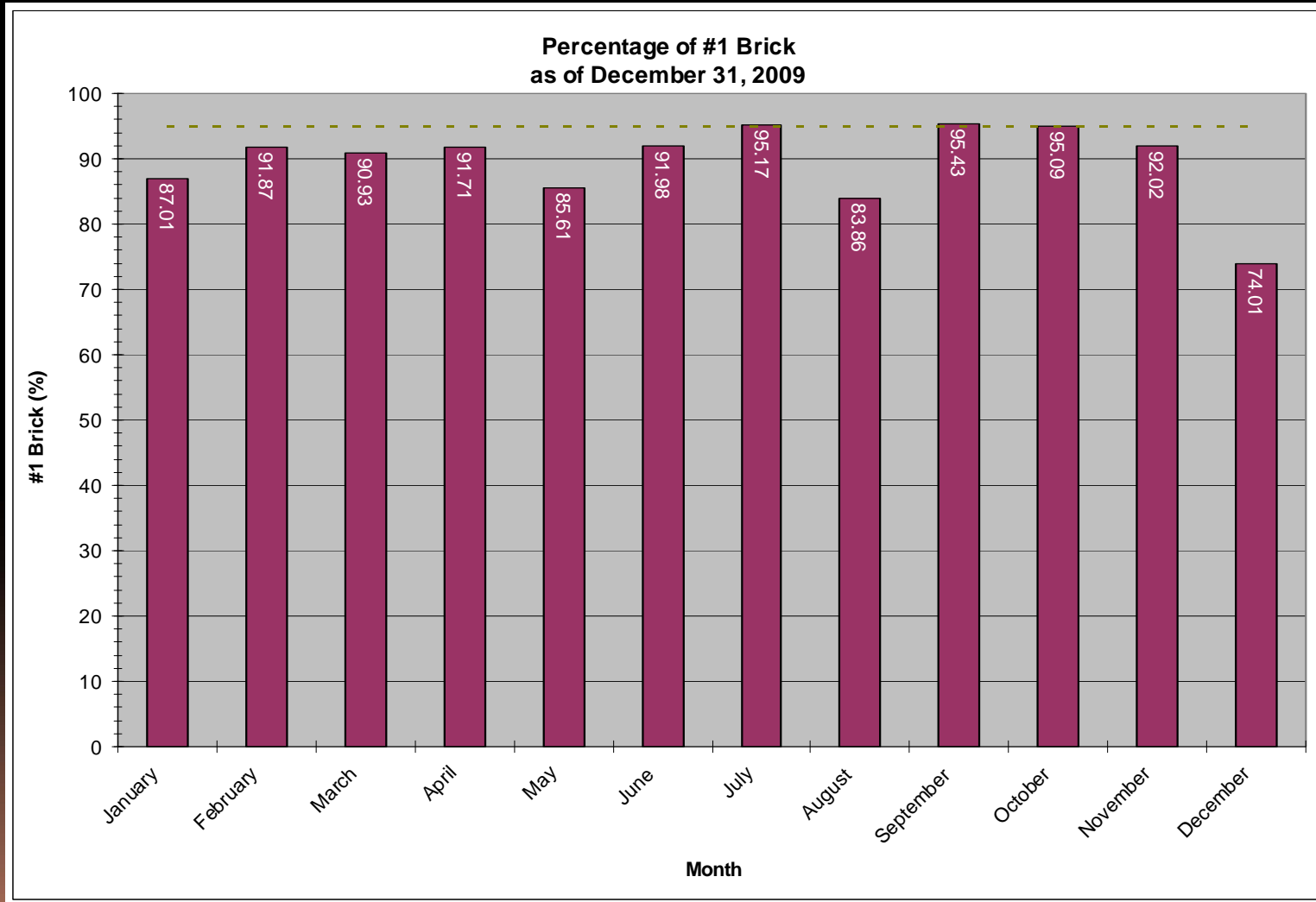




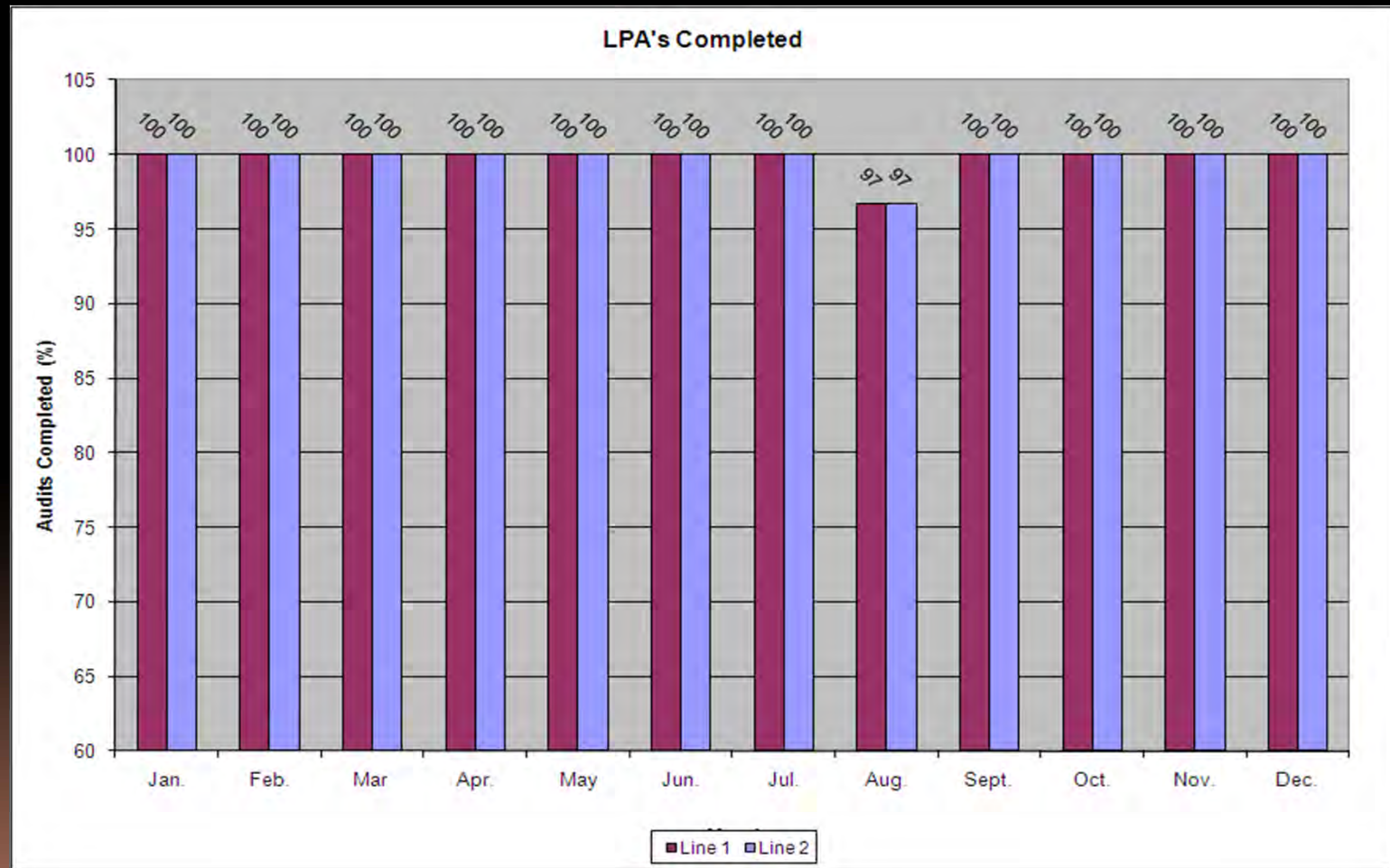
# 2009 LPA completion trends



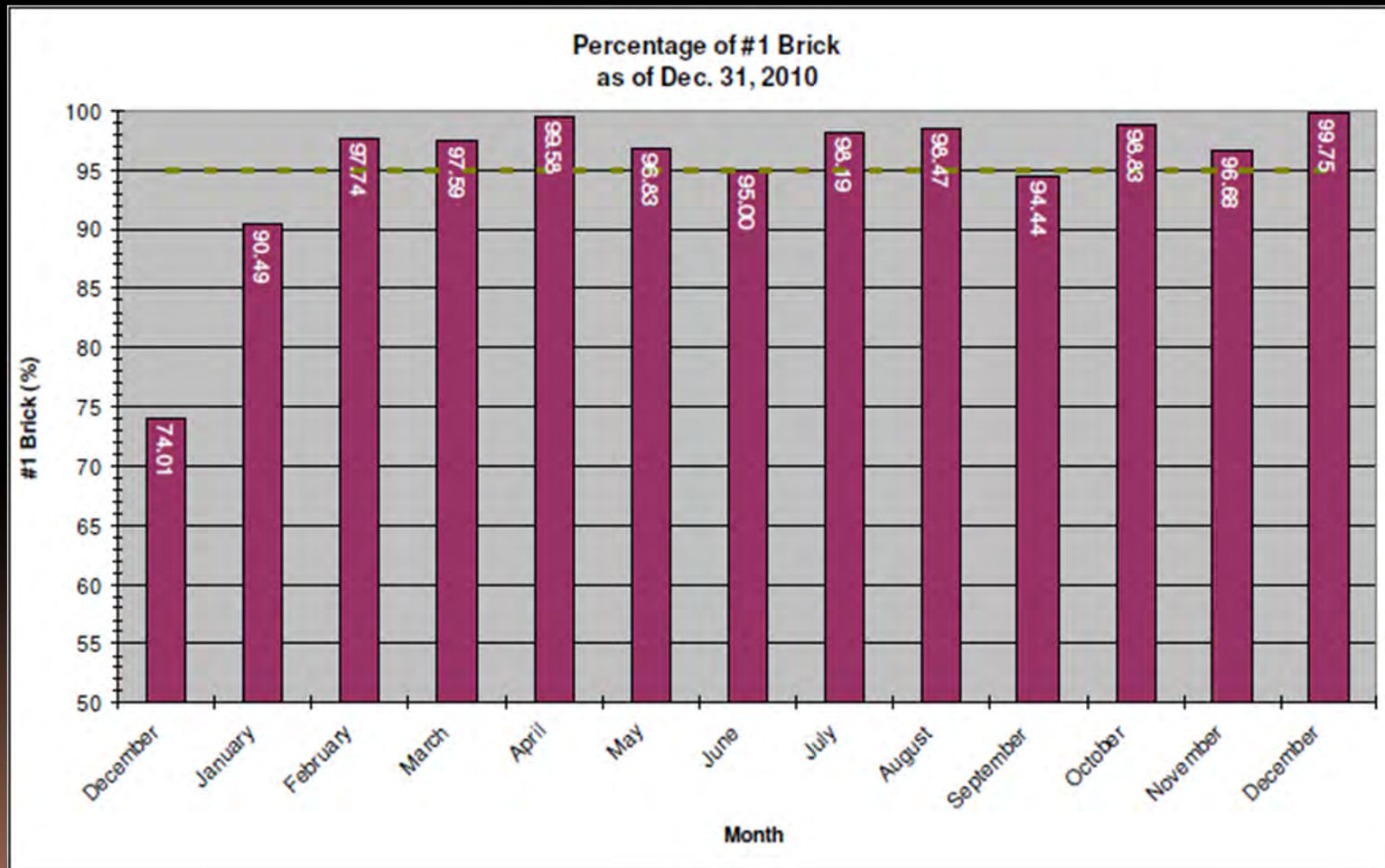
# 2009 #1 trends (total 90.2 %)



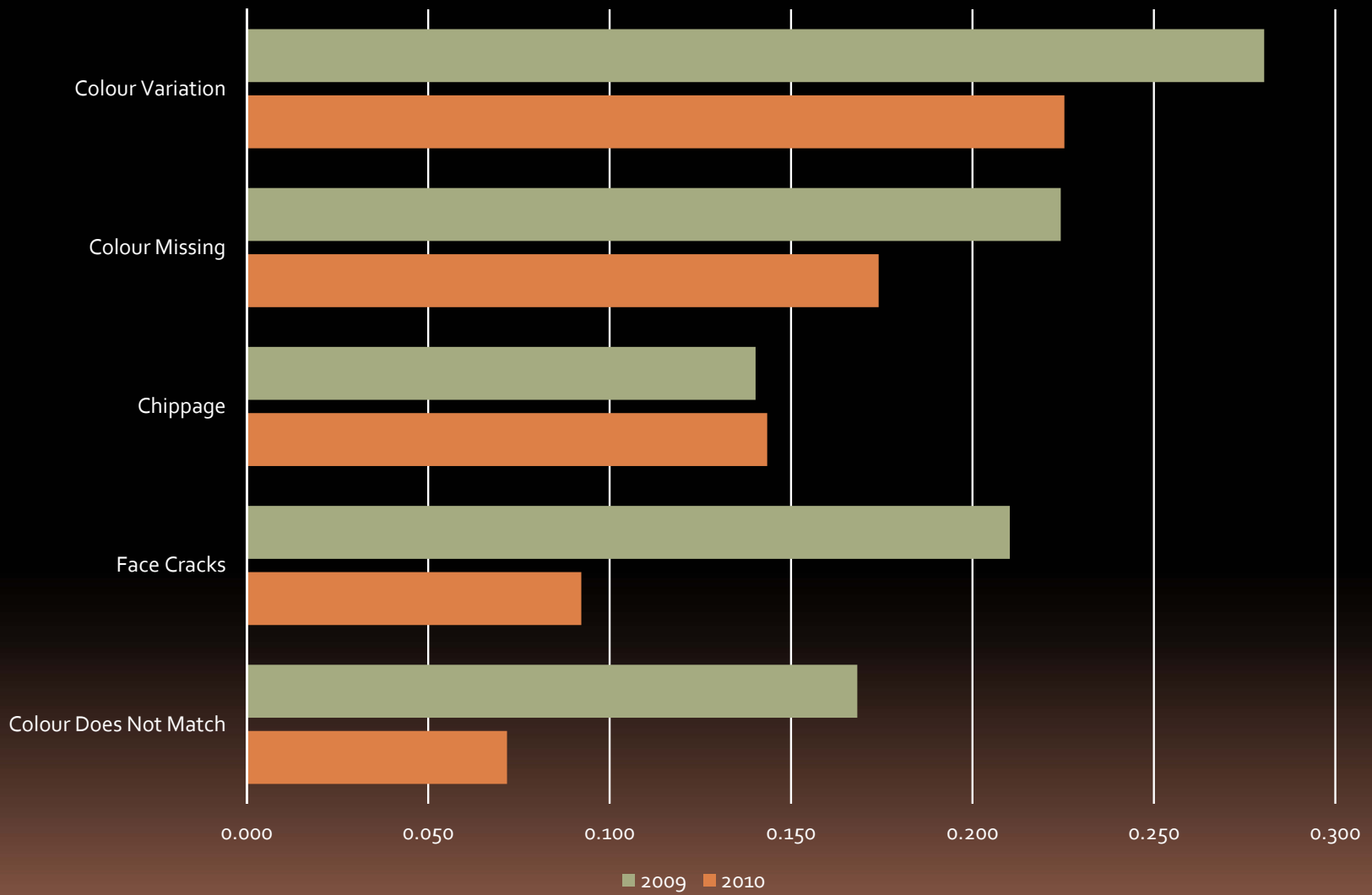
# 2010 LPA completion trends



# 2010 #1 trends (total 97 %)



## Normalized Complaint by Nature



# Summary

- LPA's are a good tool for cultural change
- Requires management involvement
- Persistence pays off in results!