

The Key to QC - more tests.....?

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What is Quality Control, QC?

- Testing
- Is the single test in spec?
- More Testing
- Statistical Analysis and
- Is the moving average of three in spec?
- More testing, the moving average of 4 or 5?
- How many more tests?



What is Quality Control, QC?

- Gyrotory Compactors
- The 4 elements of mix production.
- The fifth element.
- How many more tests?
- **Depends**



SGC-Mold Maintenance

3 years old

**1 season with
Cooking Oil
Residue**

New



Gyratory Compactor- a History

Pine No. 257 by Year	2001	2003 initial	2003 after
Interior Angle	1.21	0.98	1.17
External Angle	1.26	1.12	1.25



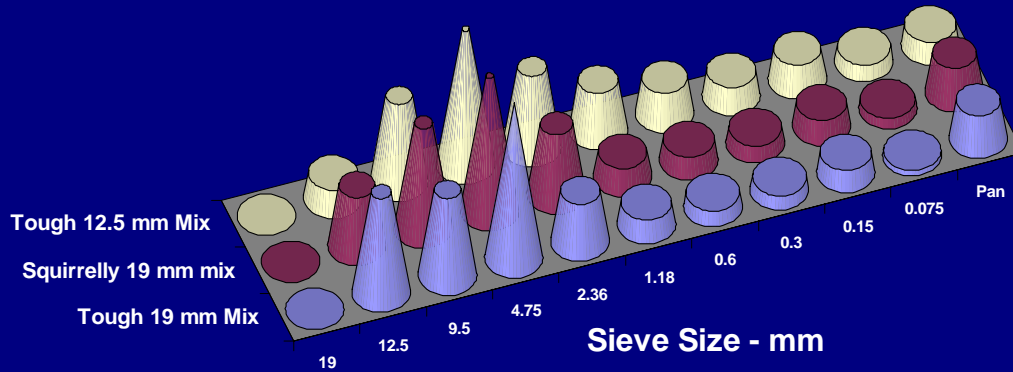
SGC Summary

- There are differences between devices of the same manufacturer, as well as different manufacturers.
- When SGC's are properly calibrated to each manufacturer standards these differences are not significant, that is less than 1% V_a or 0.020 G_{mb} for a single test.
- Significant differences in test results are a indication that SGC maintenance is required.
- Periodic SGC maintenance is required to prevent correlation problems between devices.

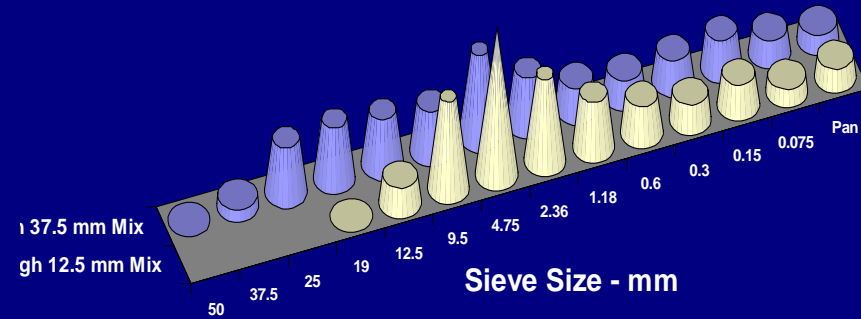
What are the elements of QC?

- Earth

Percent Retained for Tough and Squirrely Mixes



Percent Retained for Tough 12.5 and 37.5 mm Mixes



	50	37.5	25	19	12.5	9.5	4.75	2.36	1.18	0.6	0.3	0.15	0.075	Pan
Tough 12.5 mm Mix				0	5	17	27	16	10	7	5	6	3	4
Tough 37.5 mm Mix	0	2	10	11	10	9	16	10	6	5	6	7	4.7	3.3

	19	12.5	9.5	4.75	2.36	1.18	0.6	0.3	0.15	0.075	Pan
Tough 19 mm Mix	0	20	17	31	10	4.2	2.8	2.5	4	0.9	7.6
Squirrely 19 mm mix	0	12	21	27	14	5	4	3	4.5	1.9	7.6
Tough 12.5 mm Mix	0	5	17	27	16	10	7	5	6	3	4

What are the elements of QC?

- Earth



What are the elements of QC?

- Wind



Is it cooling the mix?



Is it blowing dust?

Bringing Rain?

What are the elements of QC?

- Fire



- Is the mix being heated or burnt?
- Is the plant just making steam?
- Is there a greater than 25F drop in temperature between plant and silo? Paver?

What are the elements of QC?



Asphalt Plant and Drivers Lounge

What are the elements of QC?

- Water



Drainage?



Tack?



What are the elements of QC?

- **You are the 5th Element**
 - **Check your numbers? Equipment? Correct N?**
 - **Was it a good sample? Test?**
 - **What is happening at the plant site?**
 - **What do you: see**
 - taste**
 - smell**
 - or feel?**
- **Do you need another test?**

The Key to QC - more tests.....?

and the answer is:

- **Depends on whether the plant is still running, Because you have to answer at the end of the day:**
- **What was the cost of doing it right, versus the cost of failure?**
- ***Partnering* vs fighting**
- **Harmony**

