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DPF Cleaning Services and DPF Cleaning Equipment

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Composition of Diesel Particulate Filter Ash and Confirmation that FSX Pneumatic Cleaning Process does not Damage Washcoats

- ∞ Ash tested came from three random samples taken at FSX Inc. from the waste bins on the ash collection system.
- ∞ On any given day FSX cleans a wide variety of DPF and catalysts that are manufactured or distributed by numerous OEM's.
 The ash collected in the random samples likely came from DPF distributed by:

| | | | | |
|-------------|---------|---------|----------------|-------|
| Caterpillar | Cleaire | Cummins | Detroit Diesel | DCL |
| Donaldson | Ford | Huss | Paccar | Volvo |

- ∞ Filters are incoming from multiple customers nationwide using a variety of fuels and lubricants
- ∞ Approximately 54% of the DPF being cleaned are catalyzed; DOC's compose approximately 9% of the volume
- ∞ The elements listed below were found in the form of common oxide compounds.
- ∞ The percentages of each ash element can change from test to test but the list of elements is unlikely to change

Sorted Alphabetically by Element

| | | % by weight |
|------------|------------------|---------------|
| Al | Aluminum | 16.200% |
| Ca | Calcium | 17.400% |
| Ce | Carbon | 17.638% |
| Co | Cobalt | 0.100% |
| Cr | Chromium | 0.480% |
| Cu | Copper | 0.230% |
| Fe | Iron | 8.440% |
| K | Potassium | 2.100% |
| La | Lanthunum | 0.063% |
| Mg | Magnesium | 3.220% |
| Mn | Manganese | 0.130% |
| Mo | Molybdenum | 0.340% |
| Na | Sodium | 4.220% |
| Ni | Nickel | 0.360% |
| P | Phosphorus | 14.000% |
| Pd* | Palladium | 0.048% |
| Si | Silicon | 7.170% |
| Ti | Titaneum | 0.082% |
| Zn | Zinc | 7.690% |
| Zr | Zirconium | 0.089% |
| Total | | 100% |

Sorted by % of Weight - Highest to Lowest

| Rank | | | % by weight | Cumulative Percentage |
|-------|------------|------------------|---------------|-----------------------|
| 1 | Ce | Carbon | 17.638% | 17.638% |
| 2 | Ca | Calcium | 17.400% | 35.038% |
| 3 | Al | Aluminum | 16.200% | 51.238% |
| 4 | P | Phosphorus | 14.000% | 65.238% |
| 5 | Fe | Iron | 8.440% | 73.678% |
| 6 | Zn | Zinc | 7.690% | 81.368% |
| 7 | Si | Silicon | 7.170% | 88.538% |
| 8 | Na | Sodium | 4.220% | 92.758% |
| 9 | Mg | Magnesium | 3.220% | 95.978% |
| 10 | K | Potassium | 2.100% | 98.078% |
| 11 | Cr | Chromium | 0.480% | 98.558% |
| 12 | Ni | Nickel | 0.360% | 98.918% |
| 13 | Mo | Molybdenum | 0.340% | 99.258% |
| 14 | Cu | Copper | 0.230% | 99.488% |
| 15 | Mn | Manganese | 0.130% | 99.618% |
| 16 | Co | Cobalt | 0.100% | 99.718% |
| 17 | Zr | Zirconium | 0.089% | 99.807% |
| 18 | Ti | Titaneum | 0.082% | 99.889% |
| 19 | La | Lanthunum | 0.063% | 99.952% |
| 20 | Pd* | Palladium | 0.048% | 100.000% |
| Total | | | 100% | |

Test conducted at:
 Corning, NY

* Palladium (Pd) is one of the precious metals used in the washcoats. There was no measureable amount of Platinum (Pt). These metals can be released by the DOC upstream or from DPF cell walls if coated. The quantity of Pd found, .048% was considered inconsequential by the testing lab and the lack of any measureable amount of Pt indicates that the FSX cleaning process does not damage the precious metal washcoats.