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## Vehicles

	
<u>ST8B Scoops</u>	<u>MT436B Trucks</u>
VL254 - Baseline VL244 - ECS Filter VL247 - DCL Filter	VH188 - Baseline VH183 - Unikat Filter VH181 - Oberland Filter
Detroit Diesel Series 60 - 325 HP	Detroit Diesel Series 60 - 375 HP

6 Vehicles - 1 Vehicle/Day @ 4 hrs Steady Cycle

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Exhaust Air Sampling Station

- RCD Sampling
- 5040 EC/OC Sampling
- SIL Gas Logger
- SMPS Particulate Analysis
- PAS 2000 Particulate Analysis
- MOUDI Impactor

Fresh Air Sampling Station

- RCD Sampling
- 5040 EC/OC Sampling
- SIL Gas Logger

Sealed Bulkheads

Dead End X-Cuts

Ventilation Rate  
30,000 CFM

V3

Simulated Dump Cycle

30 seconds full throttle no load

Simulated Load Cycle

15 seconds hyd-conv stall  
15 seconds full throttle no load  
4 sets - 2 minutes total

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**CANMET**

- RCD and EC/OC Sampling
- Gas Monitoring
- Temp & RH

**NIOSH**

- SMPS
- MOUDI
- PAS 2000

**Brunswick Mine**

- Operator CO & NO<sub>2</sub>
- Ventilation Flowrate

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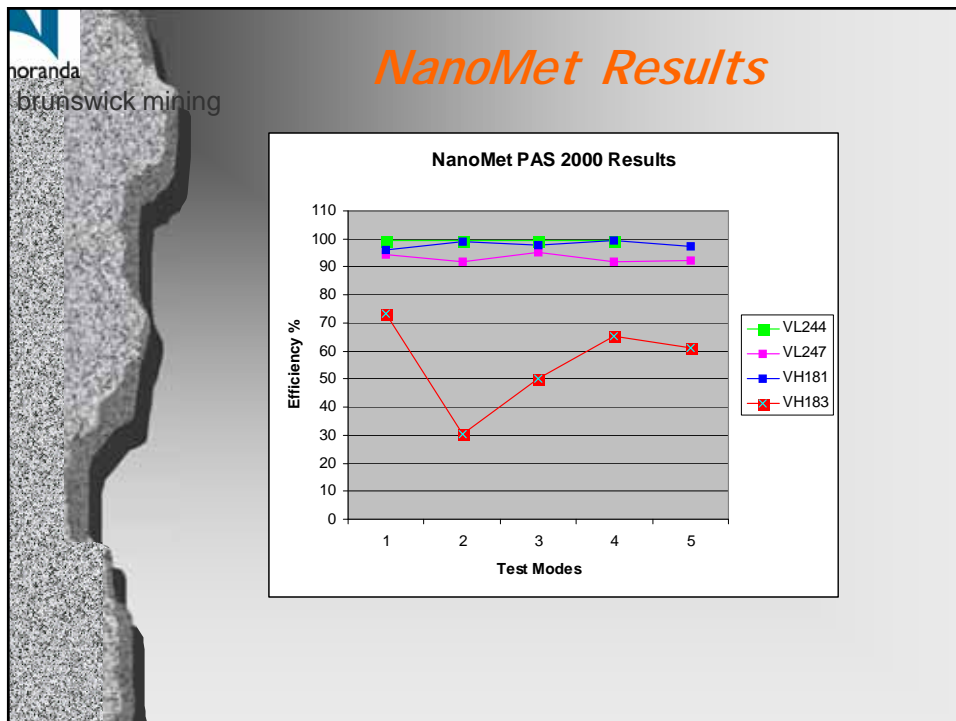
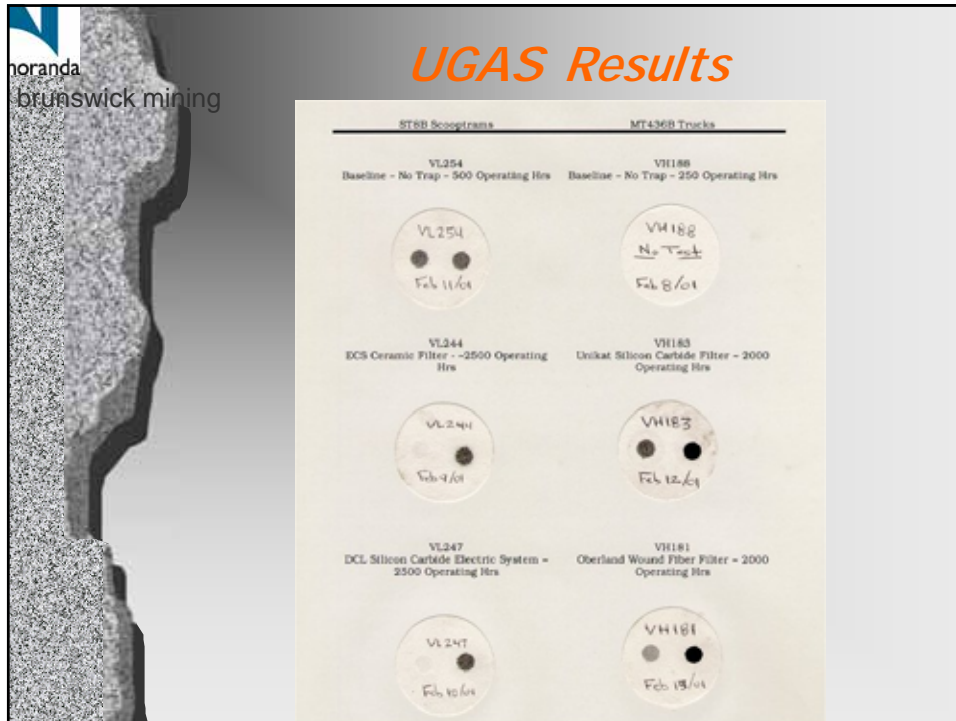


**NTC**

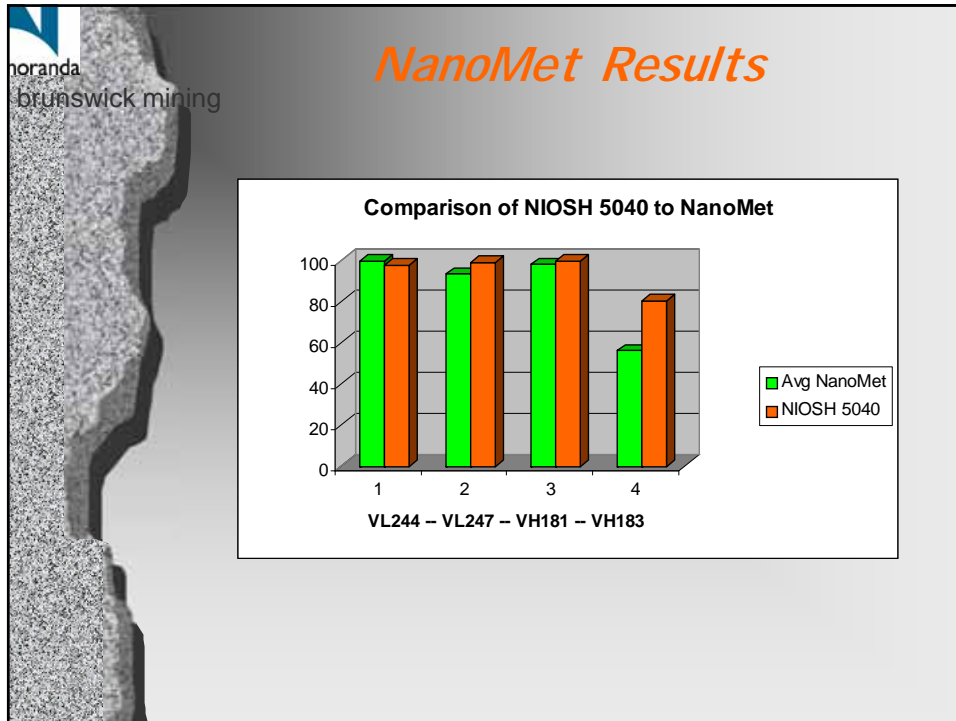
- UGAS
- DDEC Engine Diagnostic Logging
- Exhaust Temp & Pressure Logging

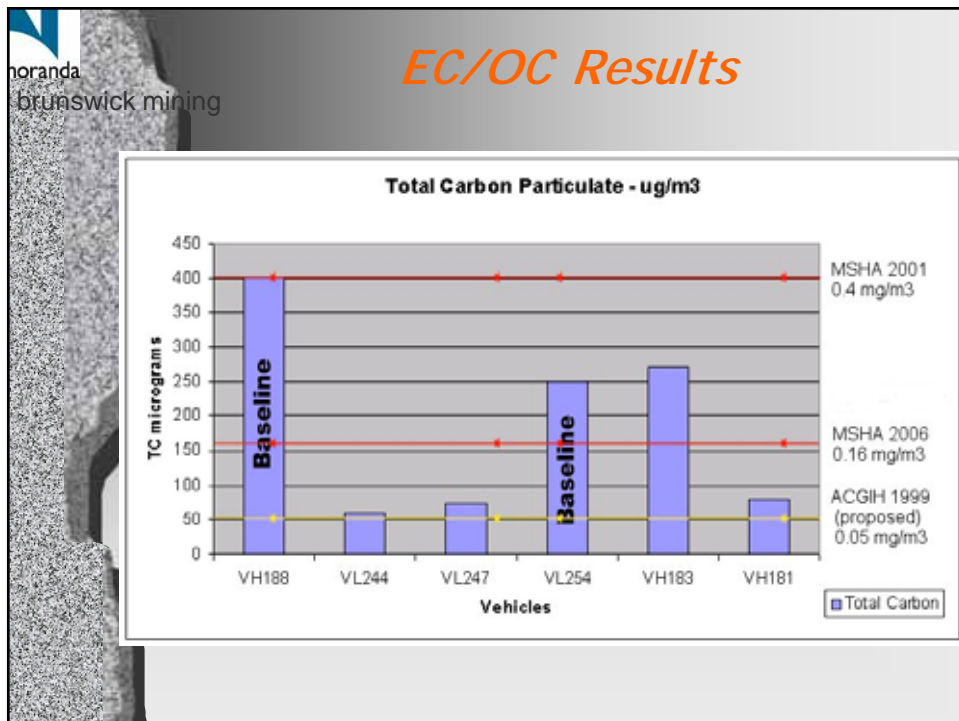
**CANMET**

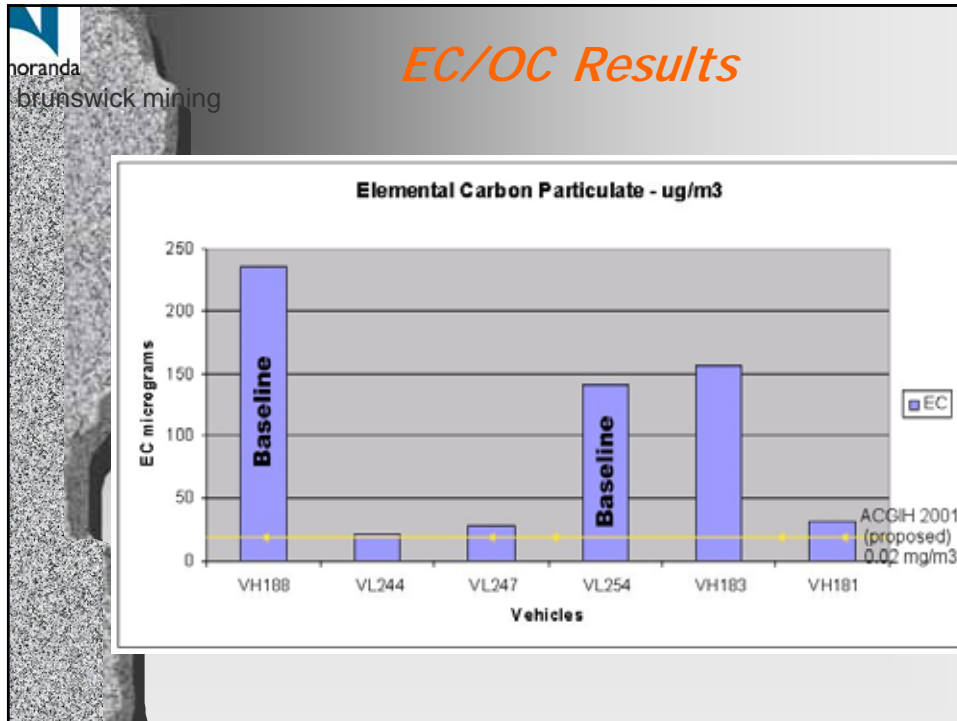
- NanoMet











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### Preliminary Conclusions

Particulate traps are demonstrating efficiencies near the capability to meet current and proposed exposure limits

MSHA - 0.4 mg/m<sup>3</sup> > 0.16 mg/m<sup>3</sup>

ACGIH - 0.05 mg/m<sup>3</sup> TC

ACGIH - 0.02 mg/m<sup>3</sup> EC

Canada - 1.5 mg/m<sup>3</sup> ??

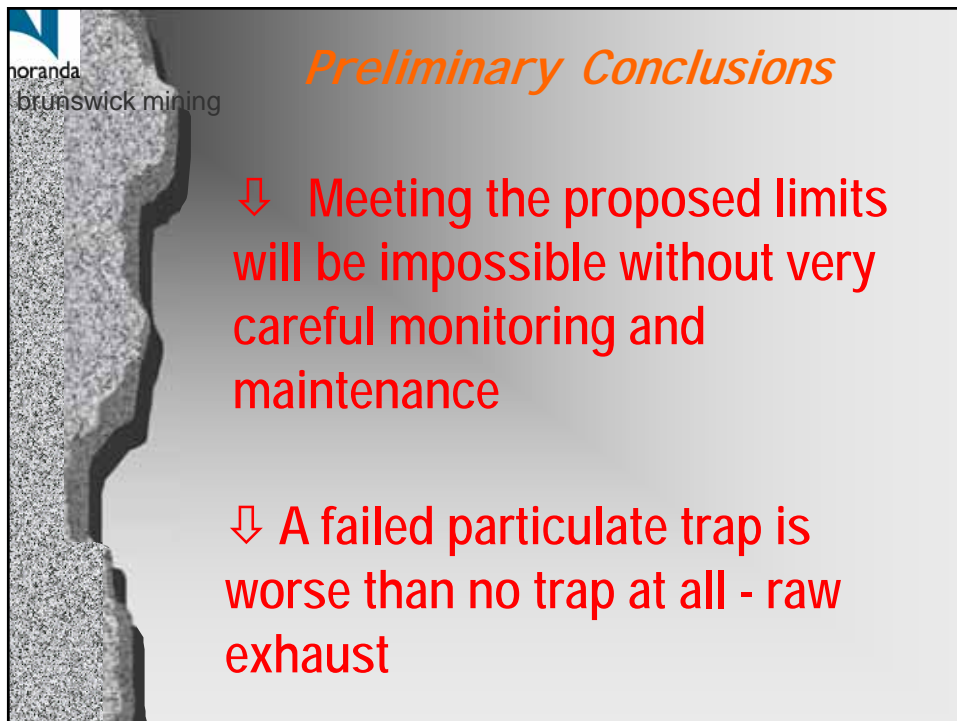


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*Preliminary Conclusions*

**BUT  
!**

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*Preliminary Conclusions*

- ↴ Meeting the proposed limits will be impossible without very careful monitoring and maintenance
- ↴ A failed particulate trap is worse than no trap at all - raw exhaust

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