



**Queensland
Government**

Department of
Main Roads

STONE MASTIC ASPHALT RESEARCH PRESENTATION

ROAD SYSTEM AND ENGINEERING

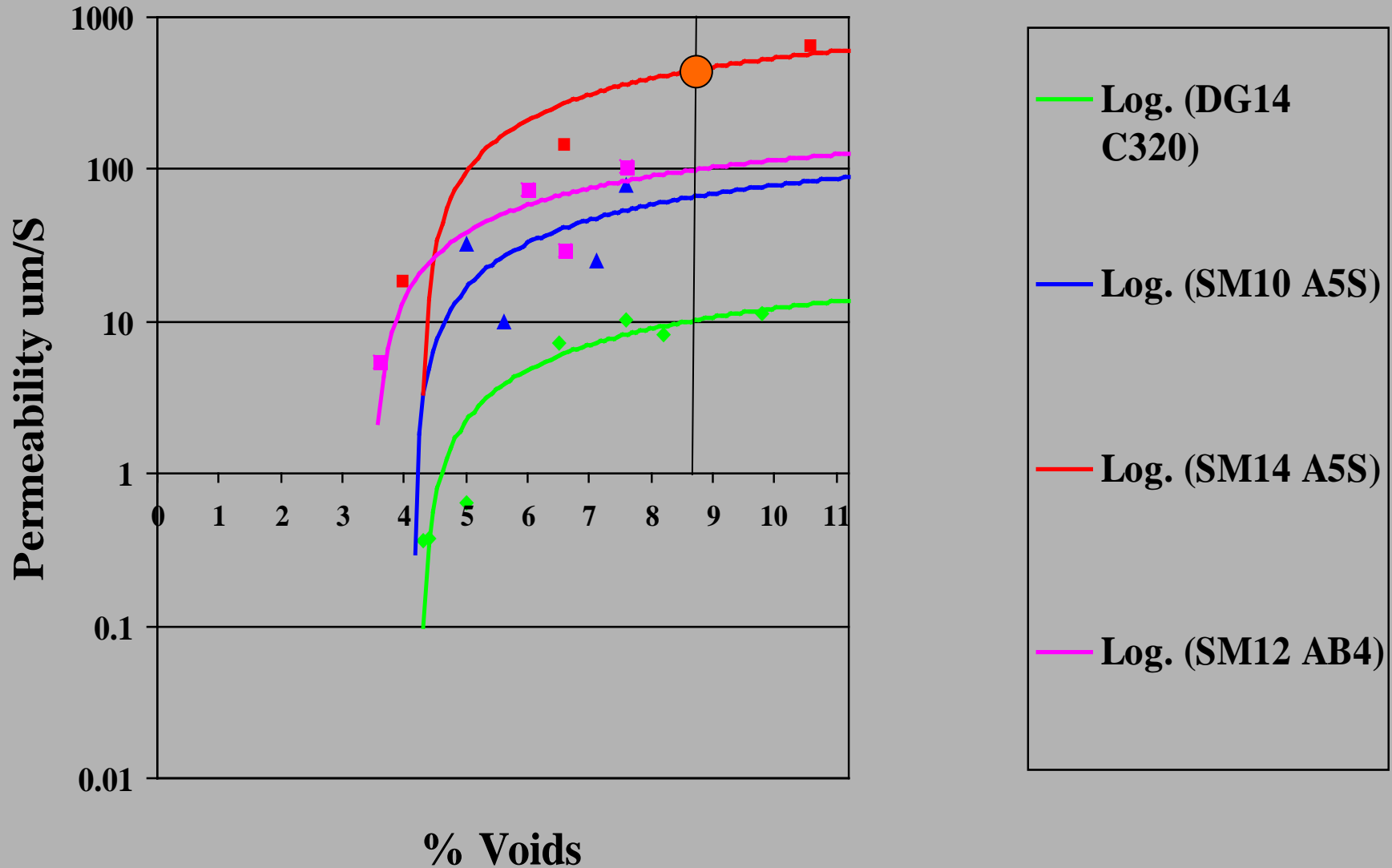


PROBLEMS

SMA PERMEABILITY



Permeabilty of laboratory mixes



Workability

- Grading/nominal size
- Binder content
- Temperature
- Binder type/characteristics
- Mastic (filler/binder) characteristics

Filler Characteristics

Filler	Voids (%)	APD (t/m ³)	% < 75 microns	Surf Area (m ² /kg)
Flyash	54	2.19	97	165
Baghouse	41	2.72	89	545
Hyd Lime	52	2.23	75	1050
UFD	52	2.90	99	865
Ag Lime	39	2.69	75	215

Typical Range of SM14 Mixes

% passing 0.075 mm	% bitumen	F/B ratio by mass
8	5.8	1.38
8	6.0	1.33
8	6.2	1.29
10	5.8	1.72
10	6.0	1.67
10	6.2	1.61

Filler to Binder Ratio (by mass)

1:1

1.25:1

1.5:1

1.75:1

Baghouse

UFD

Hydrated Lime

Flyash



Viscosity v F/B Ratio by Mass - 165°C

