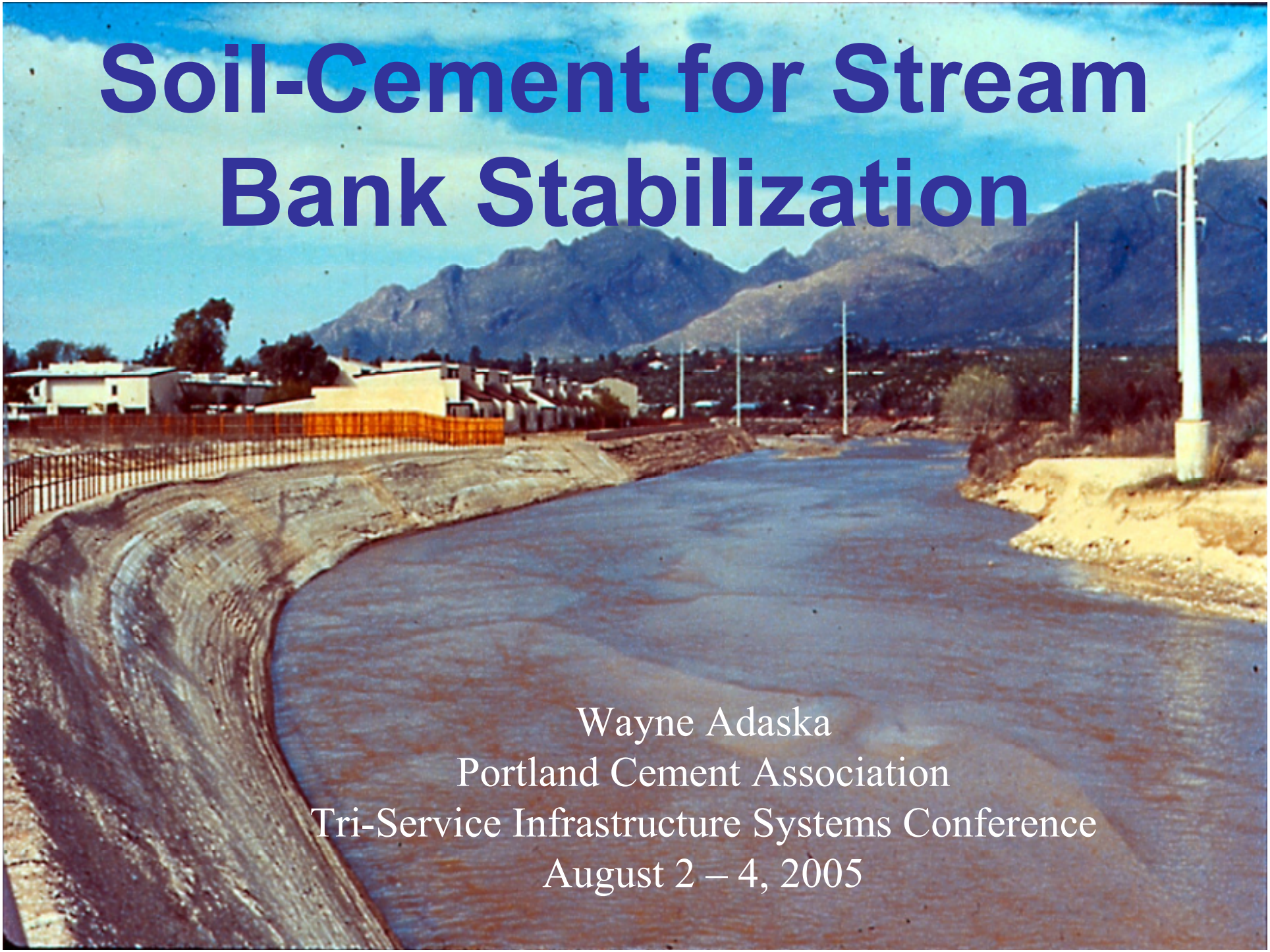
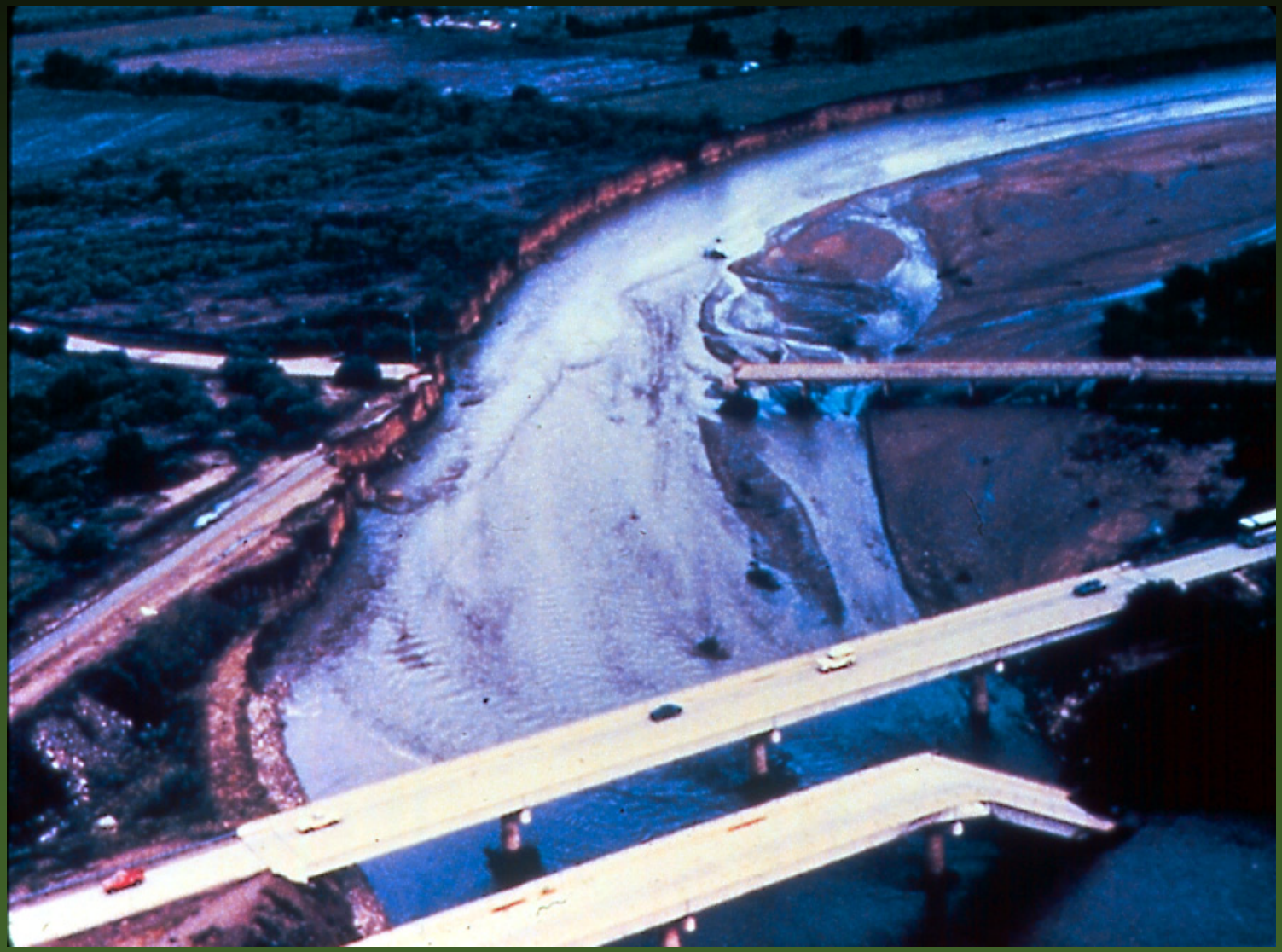
Soil-Cement for Stream Bank Stabilization



Wayne Adaska
Portland Cement Association
Tri-Service Infrastructure Systems Conference
August 2 – 4, 2005

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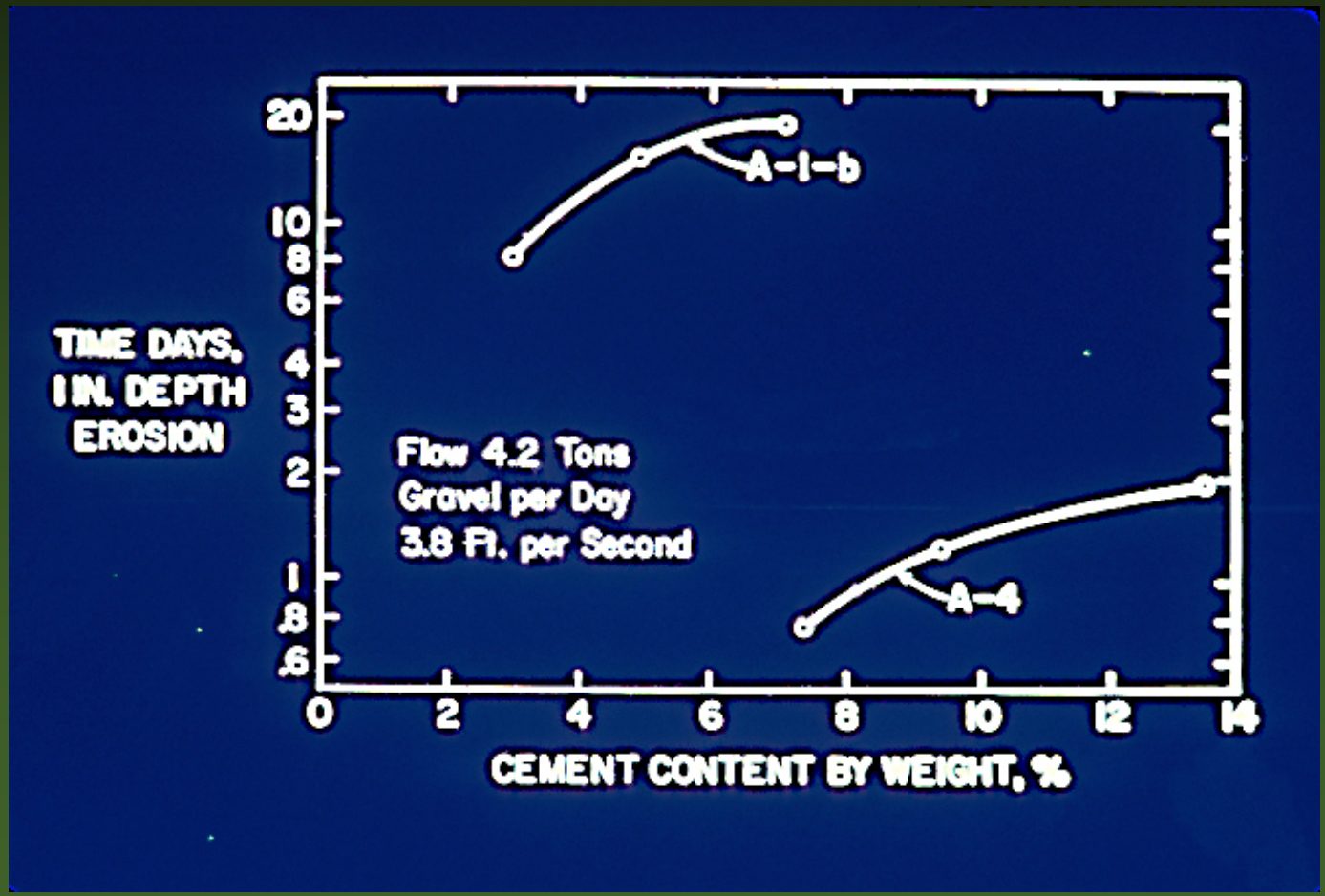
Mix Design

- Granular material
- Plasticity index of fines less than 8
- Cement contents between 5 -13%
- 7-day compressive strengths between 500 – 1000 psi
- PCA short-cut method (plus 2% cement)

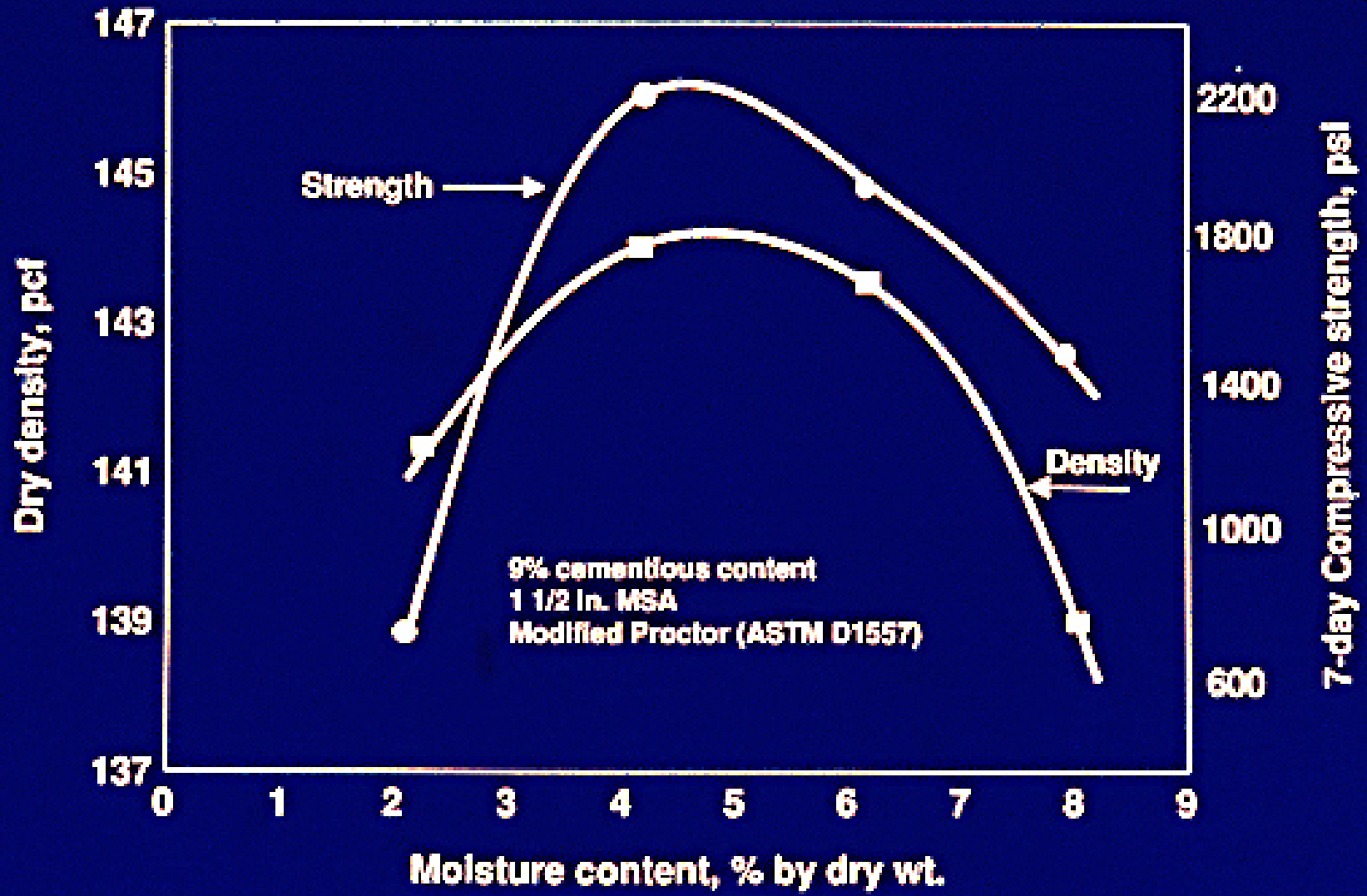
Typical Cement Contents

Gravels	A-1a	5-7% by weight
	A-1b	7-10%
Sands	A-2	7-11%
	A-3	9-13%
Silts	A-4	Not recommended
	A-5	Not recommended
Clays	A-6	Not recommended
	A-7	Not recommended

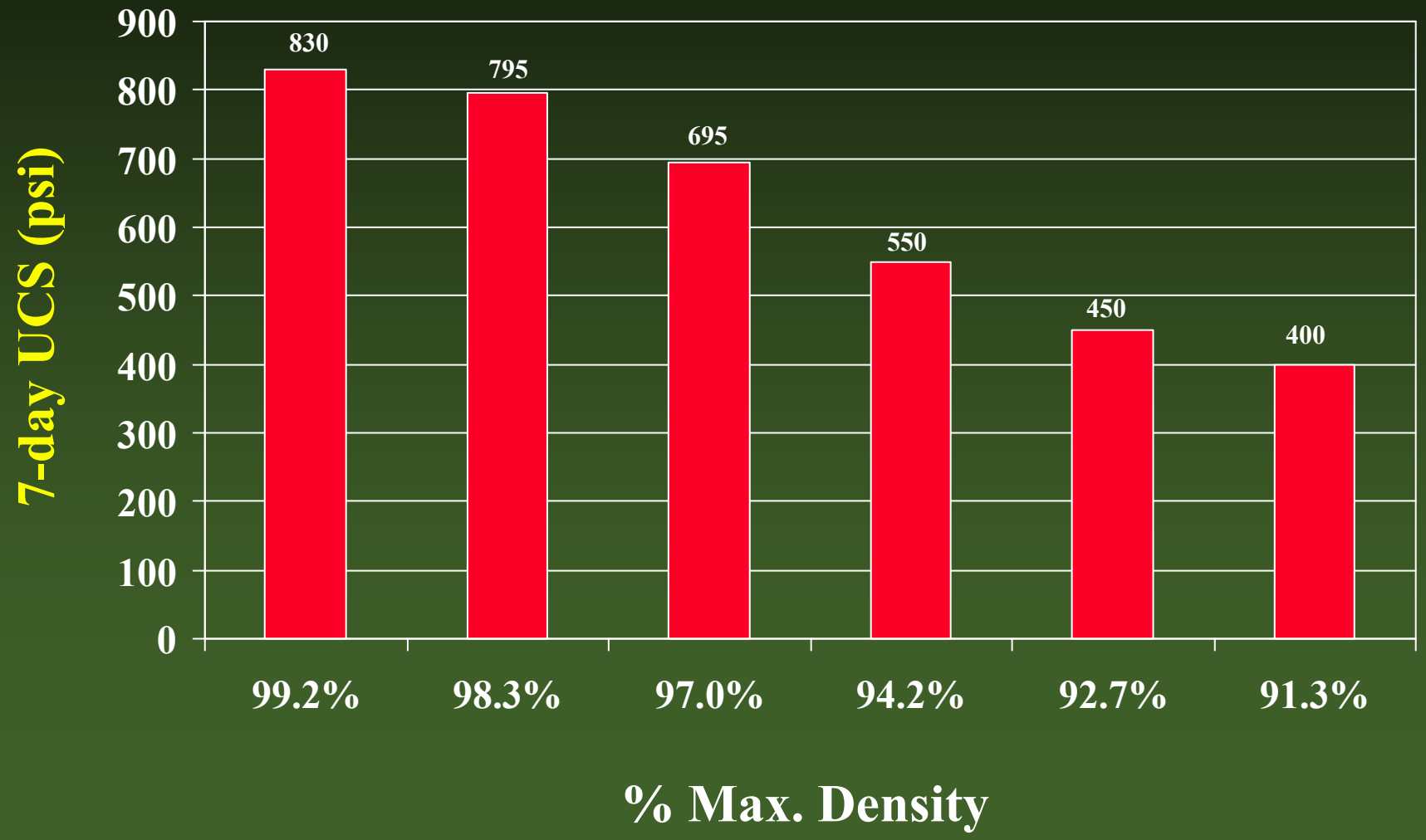
Effect of Soil Type on Erosion Resistance



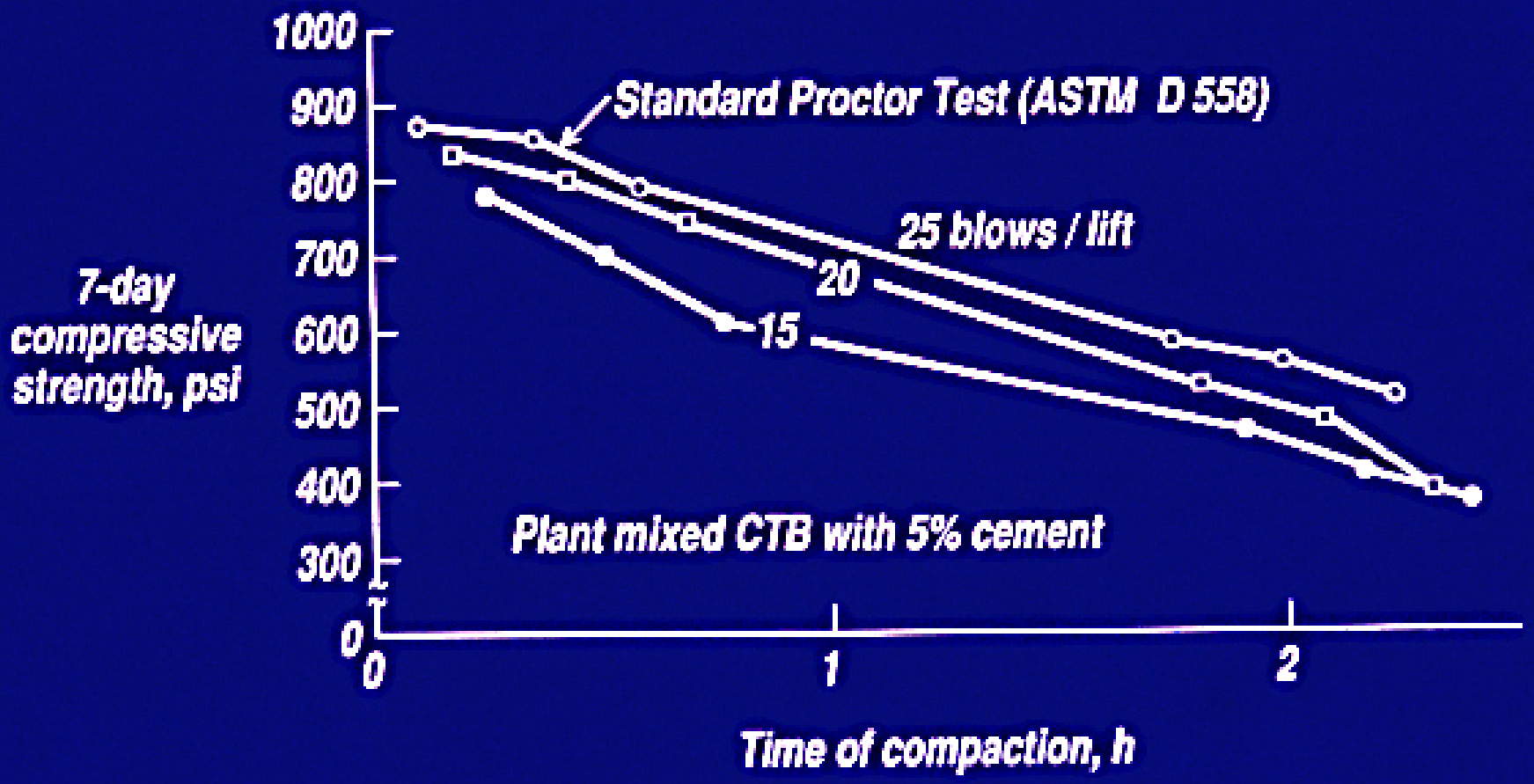
RELATIONSHIP BETWEEN DENSITY AND COMPRESSIVE STRENGTH



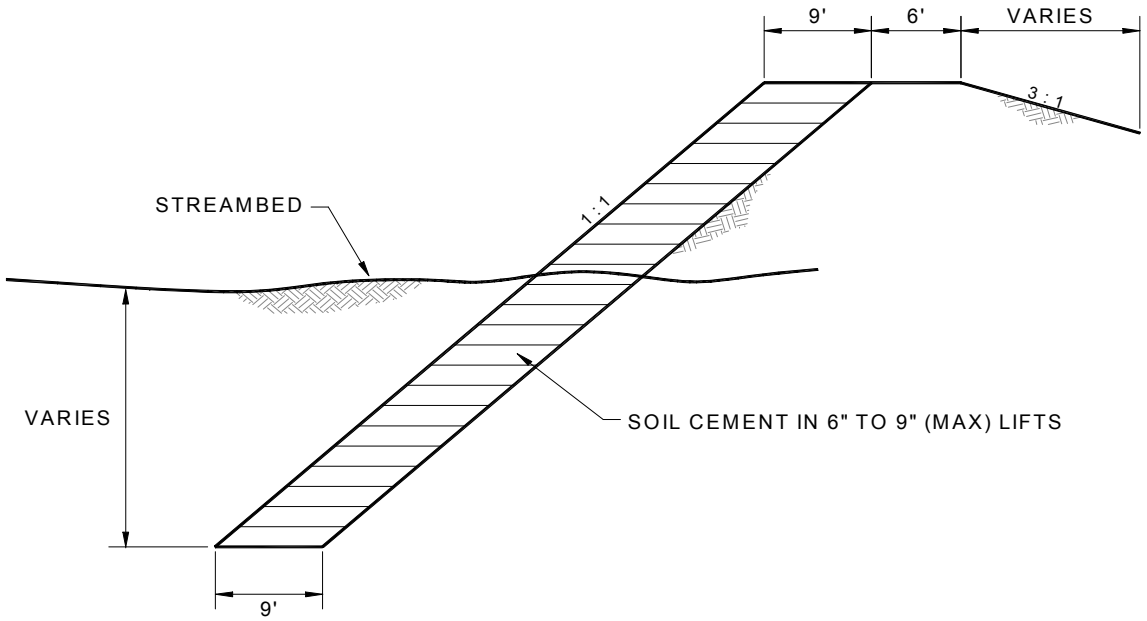
Effect of Density on Strength



STRENGTH VERSUS TIME OF COMPACTION AT VARIOUS COMPACTIVE EFFORTS



Typical Section



TYPICAL SECTION FOR BANK PROTECTION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'94 7 1

Construction


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DEVELOPMENT
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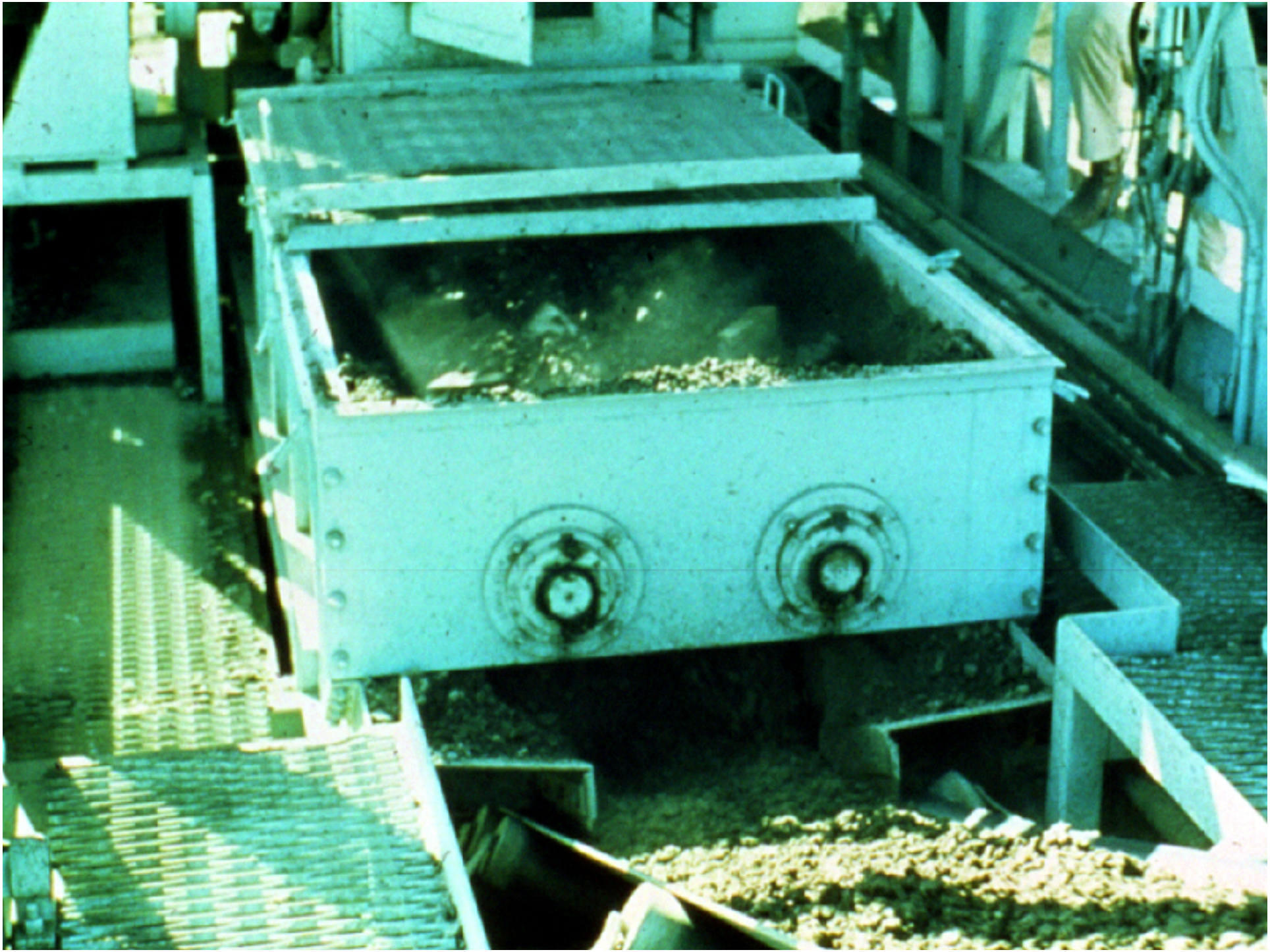


CATERPILLAR


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SD-I
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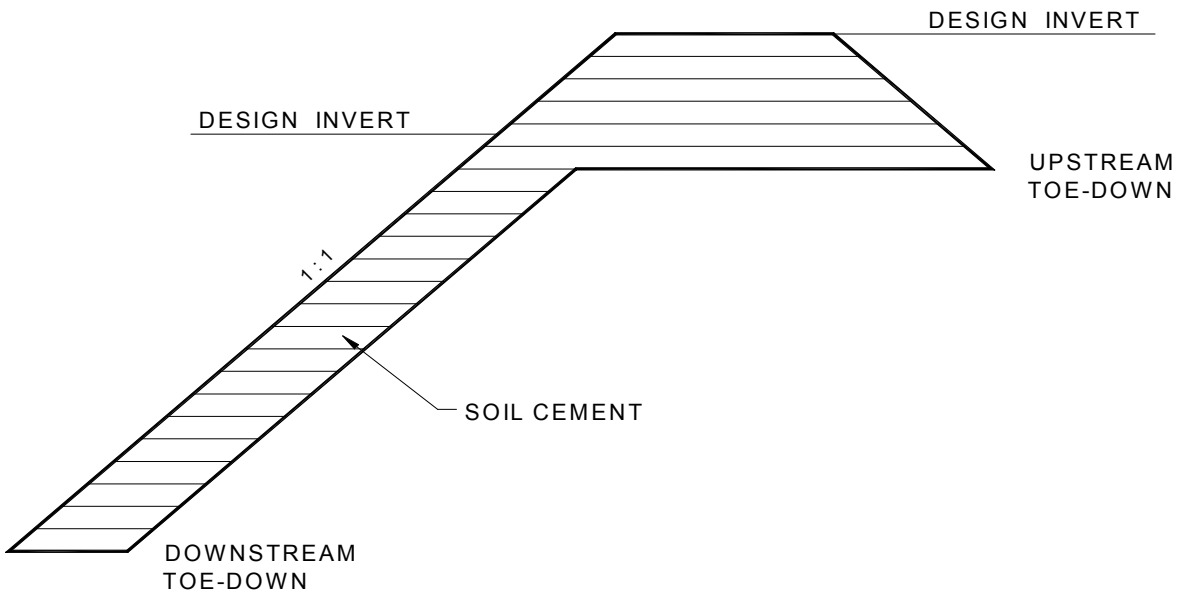
190E


TAMPO

Grade Control Structure



GRADE CONTROL STRUCTURE PROFILE

More Information

- PCA website – www.cement.org/water
- Water Resources EC
- PCA Technical Support
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