STATE OF NEW MEXICO
BEFORE THE WATER QUALITY CONTROL COMMISSION

In the Matter of:	)	
PROPOSED AMENDMENT TO 20.6.2 NMAC (Copper Rule)	)	No. WQCC 12-01(R)

EXHIBIT SCOTT – D-33

ARIZONA MINING GUIDANCE MANUAL BADCT

Janet Napolitano, Governor
Stephen A. Owens, ADEQ Director

Publication # TB 04-01

TABLE E-1

Static Stability Design Criteria (For Both Prescriptive and Individual Approaches)	
Facility	Minimum Required Factor of Safety (FOS)
Heap Leach Pile	1.5 Without testing 1.3 With testing[1]
Tailing Impoundment Embankments	1.5 Without testing 1.3 With testing[1]
Embankments Constructed on Tailing or Constructed With Tailing	Final Construction Stage; 1.5 Without testing 1.3 With testing[1] Intermediate Construction Stage; 1.3 Without testing
Large(2) Embankments Associated with Ponds	1.5 Without testing 1.3 With testing[1]
Dump Leach Piles	1.5 Without testing 1.3 With testing[1]
Waste Rock Piles	The applicant is required to establish whether or not discharge can occur. If potential for discharge exists stability analyses should be performed and FOS should meet the same criteria as for Dump Leach Piles.

95-276 (8/10/96/dh)

(1) Refers to site specific testing of material shear strengths and/or liner interface strengths and quality control testing (e.g., moisture, density, grain size) during construction. The testing program should establish drained shear strength parameters for long-term (static) stability analyses and, where appropriate, undrained shear strength parameters for rapid loading conditions (e.g., earthquake or rapid drawdown).

(2) Embankments higher than 20 feet.

TABLE E-2

Dynamic Stability Design Criteria[1]

Facility	Prescriptive BADCT	Individual BADCT
• Heap Leach Piles • Tailing Impoundment Embankments • Embankments Constructed on Tailing or Constructed With Tailing • Large[3] Embankments Associated with Ponds	• For final construction stages: - Computed pseudostatic FOS, 1.1[2] without testing. - Computed pseudostatic FOS, 1.0[2] with testing. • For intermediate construction stages: - Computed pseudostatic FOS, 1.0[2] with or without testing.	• For final construction stages: - Computed pseudostatic FOS, 1.1[2] without testing. - Computed pseudostatic FOS, 1.0[2] with testing. • For intermediate construction stages: - Computed pseudostatic FOS, 1.0[2] with or without testing.
	and/or[4]	and/or[4]
	• Liners and covers: - Deformations, 1 foot, without geomembranes.[5] - Deformations, 6 inches, with geomembranes.[5] • Covers that are maintained: - Deformations, 1 foot.[5]	• Predicted deformations shall not jeopardize containment integrity.
• Dump Leach Piles	Not Applicable	• For final construction stages: - Computed pseudostatic FOS, 1.1[2] without testing. - Computed pseudostatic FOS, 1.0[2] with testing.[1] • For intermediate construction stages: - Computed pseudostatic FOS, 1.0[2] with or without testing.
		and/or[4]
		• Predicted deformations shall not jeopardize containment integrity.
• Waste Rock Piles	The applicant is required to establish whether or not discharge can occur. If potential for discharge exists stability analysis should be performed with FOS and deformation criteria the same as for dump leach piles under Individual BADCT.	

95-276 (8/10/96/dh)

(1) Refer to Section E.2.4.3 for discussion of design earthquake selection.

(2) Applicable only when material types involved (e.g., clayey soils or large, coarse rock fragments) do not exhibit high potential for pore water pressure buildup and associated significant strength loss under loading.

(3) Embankments higher than 20 feet.

(4) For conditions with high potential for pore water pressure buildup and associated significant strength loss deformation analyses must be completed. Also, if loss of life or major environmental impacts are potentially imminent under failure conditions deformation analyses should be performed.

(5) Larger deformations may be acceptable if engineering evaluations are provided to demonstrate that they will not jeopardize containment integrity.