

Table 14.2-4 OSM Topsoil and Topsoil Substitute Suitability Criteria for the Southwestern United States (OSM 1999)*

Parameter	Material quality		
	Good	Marginal	Unsuitable
pH	6.0-8.4	5.5-6.0	<5.5
Electrical conductivity (EC) (mmhos/cm) (1)	< 4.0	4.0-12.0	>12.0
Sodium Adsorption Ratio (SAR) (2)			
sl and coarser	<12.0	12.0-18.0	>18.0
l and cl	<10.0	10.0-16.0	>16.0
40% clay	<8.0	8.0-14.0	>14.0
Texture (3)	ls, sl, l, sil, with 35% c	s, lcs, cl, sicl, with 45% c	>45% c
Saturation percent (%)	25-80	25-80	<25 or >80
CaCO ₃ %	0-15	15-30	> 30
Coarse fragments (4)			
< 3 inch %	15	15-35	35
> 3 inch %	3	3-10	10
Erosion factor (5)	<0.37	<0.37	
Acid-base potential	+5 T CaCo ₃ Equiv./1000T	+0 T CaCo ₃ Equiv./1000T	< -5 T CaCo ₃ Equiv./1000T
Boron	5 ppm	5 ppm	>5 ppm
Selenium (total)		≤0.8 ppm	>0.8 ppm
Selenium (extractable)		≤0.15 ppm	>0.15 ppm

* These suitability criteria may be modified on a case-by-case basis if sufficient data are submitted to support the modifications and the submitted data technically represent the site-specific nature of the modification

1. When EC is less than 2.0, then SARs cannot be >18.
2. SAR values can be modified if adequate data is submitted to support proposed modification(s).
3. ls=loamy sand; lcs=loamy coarse sand; sl=sandy loam; l=loam; sil=silt loam; scl=sandy clay loam; s=sand; cl=clay loam; sicl=silty clay loam; cl=clay.

4. For topsoil substitutes/supplements, percentage can be increased if it is shown that the higher percentage will increase slope stability and/or vegetation establishment. Suitabilities will be determined on a site-specific basis.
5. For each material proposed to reclaim slopes $\geq 25\%$ (4h:1v), a K factor must be determined from the results of appropriate physical and chemical analyses, as outlined in the National Soils Handbook (Soil Conservation Service 1983). Material suitability will be determined using the Revised Universal Soil Loss Equation (ARS 1990).