

**SAMPLE #**      **Sandstone #3**      December 12, 2003

**ROCK NAME**      ALTERED SANDSTONE -- probably formed by alteration (secondary ferroan dolomite + kaolinite) and weak deformation (regional metamorphism (?)) of a fine lithic arkose (McBride, 1963) protolith.

**MINERALS**      Quartz (26%) + K-feldspar (22%) + dolomite (15%) + ferroan dolomite (15%) + plagioclase (10%) + sericite (9%) + muscovite (1%) + kaolinite (1%) + opaques (1%). Dolomite occurs as extremely fine grained wispy patches that might represent deformed clastic dolomite grains.

**TEXTURES**      Clastic sedimentary. A weakly preferred orientation of detrital mica defines a weakly directed fabric.

Detrital Framework Grains (84%) are subangular, 200-480  $\mu\text{m}$ , monocrystalline [quartz (26%) + [plagioclase moderately altered sericite] (24%) + K-feldspar (22%)] + polycrystalline lithic fragments (10%) dominated by metamorphic quartz and [quartz + sericite]. Contacts between grains are curved to sutured.

Matrix (0%) was not observed. Deformed sericite-rich lithic fragments occupy most intergranular spaces not occupied by cement.

Cement (16%) is composed of ferroan dolomite + kaolinite.

**ALTERATION**      No other alteration features were observed.

**SECTIONING**      Format: 27 x 46 mm Finish: STD Stains: SCN (whole slide) + [ARS + PF] (right half) Cover: PLA

**PHOTOS**



SGS U.S. Testing Company Inc.

Report No.: 154705-1

Wilkeson Sandstone, WA

TEST RESULTS:

ASTM C 97 - Absorption and Specific Gravity

<u>Specimen</u>	<u>Wet Weight (g)</u>	<u>Dry Weight (g)</u>	<u>Volume (cm<sup>3</sup>)</u>	<u>Density (lb/ft<sup>3</sup>)</u>	<u>Specific Gravity</u>	<u>Absorption (%)</u>
1	342.16	333.19	137.19	151.54	2.429	2.69
2	353.54	344.68	140.78	152.78	2.448	2.57
3	374.96	367.98	145.33	157.99	2.532	1.90
Average	-	-	-	154.11	2.470	2.39

Requirements:

ASTM C 616-97, Standard Specification for Sandstone (Quartzitic) Dimension Stone

Absorption: 3.00%, maximum

Density: 150 lb/ft<sup>3</sup>, minimum

\*\*\*\*\*  
End of Report

D2



SGS U.S. Testing Company Inc.

Report No. 154705-2R

Wilkeson Sandstone, WA

TEST RESULTS:

ASTM C 99 - Modulus of Rupture

<u>Specimen</u>	<u>Width, in.</u>	<u>Thickness, in.</u>	<u>Ultimate Load, lbs.</u>	<u>Modulus of Rupture, psi</u>
1	4.064	2.230	1911	993
2	4.032	2.165	1684	936
3	4.060	2.047	1420	877
4	4.027	2.147	1921	1087
5	4.057	2.234	1527	792
Average (English)	4.048	2.165	-	937 Psi
Average (metric)	-	-	-	6.46MPa

\*\*\*\*\*  
End of Report