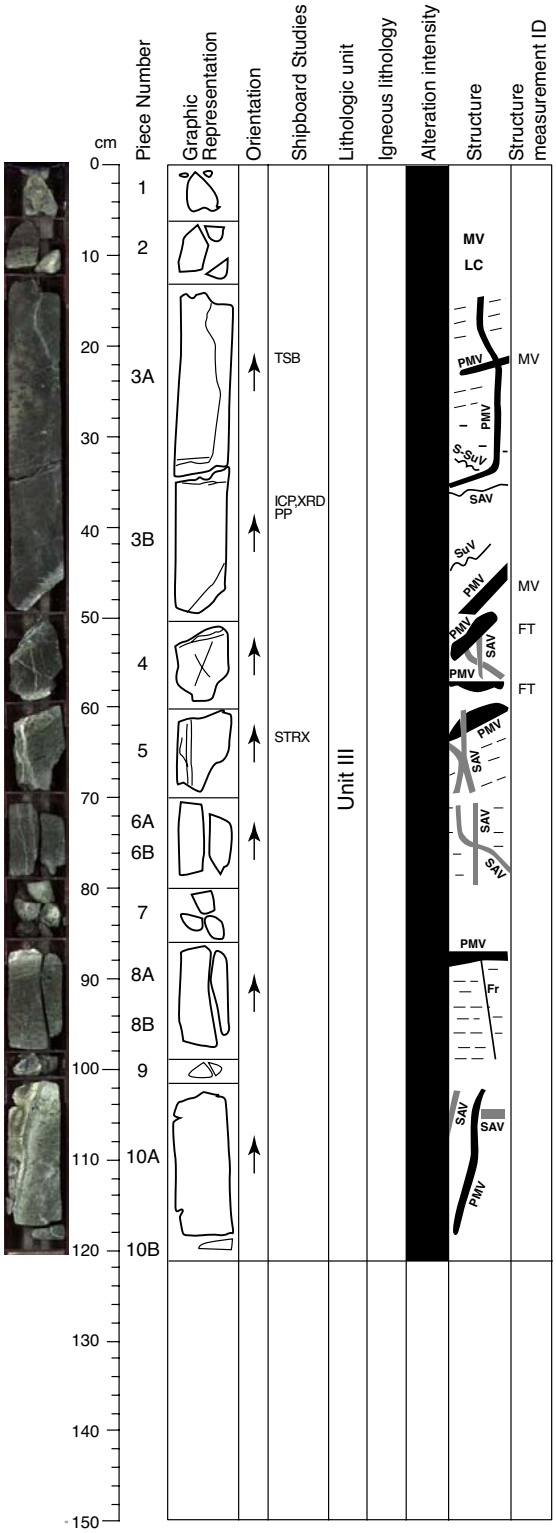
Core Photo



209-1268A-16R-1 (Section top: 82.40 mbsf)

UNIT-III: Harzburgite/Dunite

Pieces 1–10
COLOR: Green in serpentinized harzburgite. Gray in talc altered gabbroic dikelets.

PRIMARY MINERALOGY:

Olivine	Mode 82%
Orthopyroxene	Mode 18%
	Size 3–10 mm
	Shape/Habit Anhedral
Spinel	Mode 1%

COMMENTS: This section consists of serpentinized harzburgite with porphyroclastic texture. Gabbroic segregations characterized by large spinel grains are present at 24 cm and 109 cm. A gabbroic dike cuts the sequence at 50 cm. Locally, mylonitic bands are associated with dikelets and segregations.

SECONDARY MINERALOGY:

COMMENTS: This section consists of green, completely serpentinized harzburgite (SHz) with local occurrences of crosscutting, completely chlorite-talc altered gabbroic dikelets (Pieces 3, 4, 8, and 10). Typically these dikelets have black and green alteration halos. Late serpentine veins cut across and splice the dikelets. The lower part of Piece 2 is a completely altered pyroxenite.

VEIN ALTERATION: This section contains three generations of veins. An earlier generation of wispy serpentine veins is well developed in the green serpentinized harzburgite (SHZ). This generation cuts across magmatic features and offsets them (e.g., Piece 3A). Associated with this generation are also massive pyrite-iron oxide veinlets. Perpendicular thick serpentine-talc veins crosscut these two generations of veins. These veins run parallel to the gabbro layer. Thicker gabbroic veins display cross-fracture of chrysotile-talc veins.

THIN SECTIONS: 1268A-16R-1 21-24cm

STRUCTURE:

The section is characterized by weakly foliated porphyroclastic serpentinized harzburgite. The crystal-plastic foliation has a nearly horizontal trace in core cut face. Pieces 2 –4, 6, 8, and 10 are cut by a altered pyroxenitic magmatic veins (PMV) and Piece 8 is cut by an altered pyroxenitic-gabbroic composite vein (CMV). Darker to light green serpentine alteration veins (SAV1) or tension gashes cut the PMV perpendicular to its vein wall. The gashes are widest in the center of the vein and taper and terminate in the serpentinized harzburgite accommodating volume expansion in the altered olivine-rich rock. Prominent white and light green non-differentiated serpentine/talc veins (SAV2) in turn cut the MV, the orthogonal tension gashes and each other. Sulfide veins (SuV) appear to cut many of the SAV2 or earlier veins. All magmatic and alteration veins are post-kinematic with respect to the crystal-plastic deformation. Crosscutting relationships demonstrate that CP>MV>SAV1>SAV2>SuV.