149-897C-63R-1 (17–20 cm) OBSERVER: GUY
ROCK NAME: Calcified serpentinite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
		Estimated primary mineralogy
Olivine	0%	99%
Orthopyroxene	0%	0%
Clinopyroxene	0%	0%
Spinel	1%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)		Serpentine mesh network has been entirely replaced by carbonate, Fe-hydroxides, and quartz alteration.
Serpentine (vein-filling)		
Calcite	90%	
Magnetite	2%	
Quartz, Fe-hydroxides	7%	

COMMENTS: Primary mineralogy completely destroyed by serpentinization and calcitization. Dark brown stain on mesh serpentinite containing scattered opaques. Cut by later veins of serpentine. Dark brown to black spinel. Originally a dunite?

149-897C-63R-1 (51–55 cm) OBSERVER: GUY
ROCK NAME: Calcified serpentinite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
Olivine	?%	
Orthopyroxene	?%	
Clinopyroxene	?%	
Spinel	1%	
Plagioclase	0%	
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)		Serpentine mesh network has been entirely replaced by carbonate, Fe-hydroxides, and quartz alteration.
Serpentine (vein-filling)		
Calcite	90%	
Magnetite	2%	
Quartz	7%	
Fe-hydroxides		

COMMENTS: Primary mineralogy completely destroyed by serpentinization and calcitization. Yellow-brown stain on mesh serpentinite containing scattered opaques. Relict brown spinel. Originally a dunite?

149-897C-63R-2 (103–106 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Primary mineralogy was 1–10 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
		Estimated primary mineralogy
Olivine	0%	85%
Orthopyroxene	0%	OPX + CPX = 14%
Clinopyroxene	0%	
Spinel	1%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	77%	
Serpentine (vein-filling)		
Calcite	15%	
Magnetite	2%	
Fe-hydroxides	5%	

COMMENTS: Primary minerals almost completely destroyed by serpentinization. The bastitized orthopyroxene (0.5 to 1 cm), display kink bands. Mesh serpentinite with scattered opaques cut by many calcite veins. Relict brown spinel.

149-897C-64R-3 (1–4 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
		Estimated primary mineralogy
Olivine	?%	84%
Orthopyroxene	?%	OPX + CPX = 15%
Clinopyroxene	?%	
Spinel	1%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	77%	Completely destroyed by serpentinization. The bastitized pyroxenes (6 mm) are surrounded by finer mesh serpentinite.
Serpentine (vein-filling)	2%	
Calcite	15%	
Magnetite	4%	
Fe-hydroxides	1%	

COMMENTS: Mesh serpentinite with scattered opaques cut by many calcite veins. Brown spinel.

149-897C-64R-4 (49–53 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
		Estimated primary mineralogy
Olivine	0%	85%
Orthopyroxene	0%	OPX + CPX = 14%
Clinopyroxene	0%	
Spinel	1%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	60%	Brecciation increases with increasing calcite content. Patches of coalescing zoned calcite crystals.
Serpentine (vein-filling)	0%	
Calcite	35%	
Magnetite	3%	
Fe-hydroxides	1%	

COMMENTS: Mesh serpentinite with scattered opaques cut by many calcite veins. Large euhedral zoned calcite crystals obscure primary mineralogy over large regions. Brown spinel.

149-897C-64R-5 (58–62 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: 4 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
		Estimated primary mineralogy
Olivine	0%	60%
Orthopyroxene	5%	
Clinopyroxene	5%	OPX + CPX = 29%
Spinel	1%	1%
Plagioclase	5%	10%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	75%	Large calcite vein with fibrous crystals.
Serpentine (vein-filling)	1%	
Calcite	5%	
Magnetite	3%	

COMMENTS: Serpentinized porphyroclastic lherzolite. Banded and coarse-grained mesh serpentinite with scattered opaques cut by large calcite veins. Less than 1% fresh dark brown spinel. Relict clinopyroxene fragments.

149-897C-64R-5 (84–88 cm) OBSERVER: GUY
ROCK NAME: Serpentinized websterite.
GRAIN SIZE: 0.1 to 10 mm.
TEXTURE: Porphyroclastic, nearly mylonitic.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
Olivine	30%	
Orthopyroxene	15%	
Clinopyroxene	15%	
Spinel	1%	
Plagioclase	6%	
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	30%	
Serpentine (vein-filling)	2%	
Calcite	0%	
Magnetite	1%	

COMMENTS: Porphyroclastic, near mylonitic, with relict coarse (0.4 to 10 mm) crystals of deformed orthopyroxene, clinopyroxene, and plagioclase. Some crystals are granulated and olivine is completely serpentinized. Recrystallized mylonitic bands between large primary crystals consist of olivine, clinopyroxene, orthopyroxene, and plagioclase. Less than 1% dark brown spinel and several calcite patches.

149-897C-65R-1 (44–47 cm) OBSERVER: GUY
ROCK NAME: Serpentinized lherzolite.
GRAIN SIZE: 0.1 to 10 mm.
TEXTURE: Porphyroclastic.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
Olivine	1%	
Orthopyroxene	15%	
Clinopyroxene	20%	
Spinel	2%	
Plagioclase	10%	
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	40%	
Serpentine (vein-filling)	1%	
Calcite	10%	
Magnetite	1%	

COMMENTS: Porphyroclastic to mylonitic texture. Grain size between 0.1 and 10 mm. Orthopyroxene, clinopyroxene, plagioclase, and dark brown spinel are fresh, whereas olivine is completely serpentinized.

149-897C-65R-1 (110–114 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
		Estimated primary mineralogy
Olivine	0%	70%
Orthopyroxene	1%	9%
Clinopyroxene	1%	10%
Spinel	1%	1%
Plagioclase	1%	10%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	86% (0.1 to 0.4 mm)	Pyrite in veinlet (0.1 mm thick). Serpentine is 0.1–0.4 mm.
Serpentine (vein-filling)	0%	
Calcite	7%	
Magnetite	1%?	
Pyrite	2%	

COMMENTS: Coarse-grained, protogranular(?), mesh serpentinite with scattered opaques and patchy calcite. A few fragments of pyroxenes, plagioclase, and green spinel remain.

149-897C-65R-2 (52–56 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite..
GRAIN SIZEW: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
Completely altered.		
SECONDARY MINERALOGY		
Serpentinite	70%	
Calcite	20%	
Iron Oxides	10%	

COMMENTS: Primary minerals completely altered by serpentinization and later calcite veining.

149-897C-65R-2 (117–119 cm) OBSERVER: GUY
ROCK NAME: Breccia of serpentinized peridotite.
GRAIN SIZE: 1 to 3 cm.
TEXTURE: Breccia and mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	50%
Orthopyroxene	0%	5%
Clinopyroxene	6%	44%
Spinel	1%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	40%	
Serpentine (vein-filling)	1%	
Calcite	50%	
Magnetite	2%	

COMMENTS: Cataclastic texture. Some remnant of coarse (2 cm) clinopyroxene and brown spinel (1 mm). Mesh serpentinite with scattered opaques, calcite patches, and calcite veins.

149-897C-65R-3 (1–5 cm) OBSERVER: GUY
ROCK NAME: Sedimentary or igneous breccia
GRAIN SIZE: Less than 1 mm.
TEXTURE: Brecciated.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy.
Olivine	0%	30%
Orthopyroxene	0%	50% = ?%
Clinopyroxene	0%	50% = ?%
Spinel	0%	50% = ?%
Plagioclase	0%	20%
SECONDARY MINERALOGY		
Serpentine and clays (replacing primary mineralogy)	80%	Clast from sedimentary/igneous breccia.
Serpentine (vein-filling)	0%	
Calcite	20%	
Magnetite	0%	
Fe-hydroxides		

COMMENTS: Estimation of the primary mineralogy of the igneous clasts is difficult. Small thin section. Very altered rock.

149-897C-65R-3 (48–51 cm) OBSERVER: GUY
ROCK NAME: Calcitized serpentinite breccia.
GRAIN SIZE: Primary mineralogy was 1 to 10 mm.
TEXTURE: Brecciated.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	80%
Orthopyroxene	0%	
Clinopyroxene	0%	OPX + CPX = 19%
Spinel	1%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	15%	Calcite forms radiating crystals.
Serpentine (vein-filling)	0%	
Calcite	80%	
Magnetite	0%	
Fe-hydroxides	4%	

COMMENTS: Except the brown spinel (2 x 0.5 mm), all primary mineralogy is destroyed by serpentinization and calcitization. Semiangular clasts of iron-stained serpentinite with abundant calcite, including radiating spherulites of calcite.

149-897C-66R-1 (84–90 cm) OBSERVER: GUY
ROCK NAME: Breccia of serpentinite.
GRAIN SIZE: 0.1 to 20 mm.
TEXTURE: Brecciated and mesh.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	99%
Orthopyroxene	0%	1%
Clinopyroxene	0%	0%
Spinel	0%	0%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	98%	
Serpentine (vein-filling)	1%	
Calcite	0%	
Magnetite	1%	

COMMENTS: Mineralogy extensively destroyed by serpentinization and calcitization: a breccia of serpentinite.

149-897C-66R-4 (26–30 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Primary mineralogy was 3–10 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	75%
Orthopyroxene	0%	
Clinopyroxene	0%	OPX + CPX = 14%
Spinel	1%	1%
Plagioclase	0%	10%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	95%	
Serpentine (vein-filling)	1%	
Calcite	0%	
Magnetite	3%	

COMMENTS: All the primary mineralogy, except for brown spinel (1 mm), is replaced by serpentine.

149-897C-66R-4 (50–54 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Banded serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	80%
Orthopyroxene	0%	
Clinopyroxene	0%	OPX + CPX = 10%
Spinel	1%	1%
Plagioclase	0%	9%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	98%	
Serpentine (vein-filling)	0%	
Calcite	0%	
Magnetite	1%	

COMMENTS: All the primary mineralogy, except for brown spinel (1 mm), is replaced by serpentine.

149-897C-66R-4 (55–57 cm) OBSERVER: GUY
ROCK NAME: Plagioclase-bearing websterite.
GRAIN SIZE: 0.2 to 10 mm.
TEXTURE: Porphyroclastic.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
Olivine	10%	
Orthopyroxene	30%	
Clinopyroxene	40%	
Spinel	1%	
Plagioclase	20%	
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	4%	
Serpentine (vein-filling)	1%	
Calcite	0%	
Magnetite	0%	

COMMENTS: Primary mineralogy well preserved except for olivine. Dark brown to black spinel (1 mm). Pyroxene porphyroclasts have sigmoidal shape and some kink bands.

149-897C-66R-4 (66–69 cm) OBSERVER: GUY
ROCK NAME: Plagioclase bearing websterite.
GRAIN SIZE: 0.2 to 10 mm.
TEXTURE: Porphyroclastic.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
Olivine	15%	
Orthopyroxene	27%	
Clinopyroxene	40%	
Spinel	5%	
Plagioclase	10%	
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	3%	Sulfides are 0.01 to 0.1 mm in diameter. The smallest are located in pyroxene crystals and in fractures.
Serpentine (vein-filling)	0%	
Calcite	0%	
Magnetite	0%	
Pyrite + chalcopyrite	<1%	

COMMENTS: Primary mineralogy is well preserved, including olivine. Green spinel (up to 3 mm in diameter). Pyroxene porphyroclasts have sigmoidal shape and some kink bands. Green spinel.

149-897C-67R-2 (59–61 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	70%
Orthopyroxene	0%	15%
Clinopyroxene	0%	5%
Spinel	0%	1%
Plagioclase	0%	9%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	93%	Sulfides and magnetite occur as scattered crystals. Pyrite also occurs as hair-like crystals inside the mesh network.
Serpentine (vein-filling)	5%	
Calcite	0%	
Magnetite	2%	
Pyrite	<1%	

COMMENTS: Primary mineralogy is extensively destroyed by serpentinization. Primary crystal size was 0.5 to 5 mm. Black to dark brown spinel appears to be altered and broken. Magnetite is scattered through the mesh serpentinite.

149-897C-67R-3 (30–32 cm) OBSERVER: GUY
ROCK NAME: Plagioclase-bearing websterite.
GRAIN SIZE: 0.1 to 20 mm.
TEXTURE: Porphyroclastic.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	15%	20%
Orthopyroxene	30%	33%
Clinopyroxene	32%	39%
Spinel	1%	1%
Plagioclase	10%	12%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	10%	
Serpentine (vein-filling)	1%	
Calcite	0%	
Magnetite	1%	

COMMENTS: Primary mineralogy is well-preserved. Grain size is between 0.1 and 20 mm. Pyroxenes are deformed and display exsolution lamellae. Orthopyroxene shows kink bands. Spinel is greenish brown and about 1 mm in size. Mesh serpentinite occurs with scattered opaques. A fine-grained bluish alteration material occurs in one spot.

149-897C-67R-3 (62–65 cm) OBSERVER: GUY
ROCK NAME: Plagioclase bearing websterite.
GRAIN SIZE: 0.02 to 5 mm.
TEXTURE: Mylonitic.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	30%	40%
Orthopyroxene	15%	18%
Clinopyroxene	18%	25%
Spinel	2%	2%
Plagioclase	13%	15%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	20% (1 mm long)	Weakly serpentinized, with silvered chlorite (2 mm) and tremolite associated in veinlets parallel to foliation and crosscut by late serpentine veinlet.
Serpentine (vein-filling)	1%	
Calcite	0%	
Magnetite	<1%	
Tremolite, chlorite	1%	

COMMENTS: Some porphyroclasts of olivine and pyroxene (up to 4 mm) remain unaltered. Cataclastic bands of small recrystallized minerals surround porphyroclasts of olivine, clinopyroxene, orthopyroxene, plagioclase, and dark brown spinel. Kinked crystals of orthopyroxene. Patches of greenish blue alteration material occur around altered olivine crystals.

149-897C-67R-3 (112–115 cm) OBSERVER: GUY
ROCK NAME: Plagioclase bearing websterite.
GRAIN SIZE: 0.2 to 4 mm.
TEXTURE: Porphyroclastic.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	15%	30%
Orthopyroxene	19%	25%
Clinopyroxene	20%	25%
Spinel	5%	5%
Plagioclase	10%	15%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	30%	
Serpentine (vein-filling)	1%	
Calcite	0%	
Magnetite	<1%	

COMMENTS: Porphyroclasts (<3 mm) of pyroxene and brown spinel (<3 mm). Cataclastic bands of small recrystallized minerals surrounding crystals of serpentinized olivine, clinopyroxene, orthopyroxene, plagioclase, and dark brown spinel. Plagioclase often circles spinel or olivine.

149-897C-69R-1 (46–48 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	88%
Orthopyroxene	1%	7%
Clinopyroxene	1%	4%
Spinel	1%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	92%	
Serpentine (vein-filling)	1%	
Calcite	0%	
Magnetite	5%	
Fibrous actinolite	<1%	

COMMENTS: Extensively destroyed by serpentinization, no more than 1% of pyroxene fragments and spinel remain unaltered. Initial size: about 4 mm. Mesh serpentinite with scattered opaques. Cataclastic bands of fine-grained bands separating relict olivine, pyroxenes, and dark brown spinel.

149-897C-69R-1 (89–92 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	89%
Orthopyroxene	1%	OPX + CPX = 10%
Clinopyroxene	1%	
Spinel	1%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	96%	
Serpentine (vein-filling)	1%	
Calcite	0%	
Magnetite	1%	

COMMENTS: Extensively destroyed by serpentinization, less than 1% of clinopyroxene fragments remain unaltered. Globular brown spinel (0.5 mm). Mesh serpentinite with scattered opaques and only small relics of pyroxene and brown spinel.

149-897C-70R-1 (6–9 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	1%	99%
Orthopyroxene	0%	0%
Clinopyroxene	0%	0%
Spinel	0%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	79%	
Serpentine (vein-filling)	2%	
Calcite	0%	
Magnetite	17%	
Brucite? chlorite?	1%	

COMMENTS: Primary mineralogy almost completely destroyed by serpentinization. Few remnants of olivine (up to 0.5 mm). Spinel (2 mm) transformed to magnetite. The initial rock was a dunite mesh serpentinite with scattered opaques. Estimated primary mineralogy corresponded to a dunite.

149-897C-70R-1 (109–113 cm) OBSERVER: GUY
ROCK NAME: Serpentinized pyroxenite.
GRAIN SIZE: Primary mineralogy was up to 10 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	0%
Orthopyroxene	1%	25%
Clinopyroxene	1%	75%
Spinel	0%	0%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	90%	Thick contorted veins (2 mm thick) of very fine light brown chrysotile.
Serpentine (vein-filling)	7%	
Calcite	0%	
Magnetite	0%	
Tremolite	1%	

COMMENTS: The primary mineralogy was coarse-grained but is now almost completely altered. Remnants of clinopyroxene and orthopyroxene remain. No spinel was noted.

149-897C-70R-2 (60–63 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	99%
Orthopyroxene	0%	0%
Clinopyroxene	0%	0%
Spinel	0%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	90%	Oriented thin veins (0.1 mm) of fibrous serpentine are crosscut by unoriented thick veins (0.5 mm) of massive serpentine.
Serpentine (vein-filling)	2%	
Calcite	0%	
Magnetite	8%	

COMMENTS: The primary mineralogy is completely destroyed by serpentinization. Spinel is either absent or has been transformed to magnetite. The rock is now a mesh serpentinite with scattered opaques and a few scattered remnants of olivine. The initial rock was a dunite.

149-897C-70R-3 (63–66 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Banded serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
Spinel	<1%	
SECONDARY MINERALOGY		
Serpentine	98%	
Magnetite	2%	

COMMENTS: The primary mineralogy was destroyed by serpentinization, leaving only a few fragments of olivine and unaltered dark brown spinel.

149-897C-71R-2 (73–76 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
		Estimated primary mineralogy
Olivine	0%	86%
Orthopyroxene	1%	OPX + CPX = 13%
Clinopyroxene	1%	OPX + CPX = 13%
Spinel	0%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	95%	Late fibrous vein of serpentine (0.1 mm).
Serpentine (vein-filling)	1%	
Calcite	0%	
Magnetite	2%	
Clays?	1%	

COMMENTS: Coarse grained. Primary mineralogy was mesh serpentinite with scattered opaques, but is now almost totally altered. Many small relict fragments of clinopyroxene and olivine remain along with small, dark brown spinels.

149-897C-71R-3 (50–55 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
		Estimated primary mineralogy
Olivine	0%	86%
Orthopyroxene	0%	10%
Clinopyroxene	0%	4%
Spinel	0%	0%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	95%	Late fibrous vein of serpentine (0.1 mm).
Serpentine (vein-filling)	1%	
Calcite	0%	
Magnetite	2%	
Clays? tremolite	2%	

COMMENTS: Coarse grained. The primary mineralogy is almost completely altered. Small relict fragments of clinopyroxene remain. No spinel identified. Mesh serpentinite with scattered opaques.

149-897C-72R-1 (58–63 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
		Estimated primary mineralogy
Olivine	0%	85%
Orthopyroxene	0%	10%
Clinopyroxene	0%	4%
Spinel	1%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	96%	
Serpentine (vein-filling)	1%	
Calcite	0%	
Magnetite	2%	
Clay?	<1%	

COMMENTS: Coarse grained. Primary mineralogy is completely altered. Dark brown spinel (0.5 mm). Mesh serpentinite with scattered opaques.

149-897C-72R-2 (12–16 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite
GRAIN SIZE: Less than 1 mm.
TEXTURE: Banded serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
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SECONDARY MINERALOGY		
Serpentinite	99%	
Magnetite	1%	

COMMENTS: The primary mineralogy is almost totally destroyed by serpentinization, only a few small relicts of clinopyroxene remain. Several zoned serpentinite veins cut across former pyroxene-rich regions.

149-897C-72R-2 (88–92 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Banded mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
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SECONDARY MINERALOGY		
Serpentinite	98%	
Magnetite	2%	

COMMENTS: The primary mineralogy is almost totally destroyed by serpentinization, only a few small relicts of clinopyroxene remain. Oriented bands of magnetite fragments give the rock a banded appearance.

149-897C-73R-1 (64–67 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Banded serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
		Estimated primary mineralogy
Olivine	0%	99%
Orthopyroxene	0%	0%
Clinopyroxene	0%	0%
Spinel	0%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	98%	
Serpentine (vein-filling)	1%	
Calcite	0%	
Magnetite	1%	

COMMENTS: The coarse-grained primary mineralogy is almost completely altered. One red-brown spinel (0.5 mm) crystal occurs in the mesh serpentinite with scattered opaques.

149-897D-10R-3 (Piece 1A, 15–19 cm) OBSERVER: GUY
ROCK NAME: Breccia of serpentinite.
GRAIN SIZE: Clasts of 1 to 15 mm.
TEXTURE: Brecciated.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	99%
Orthopyroxene	0%	0%
Clinopyroxene	0%	0%
Spinel	0%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	60%	Calcite in vein and patch associated to crushed serpentine. Thin section too thin.
Serpentine (vein-filling)	?%	
Calcite	40%	
Magnetite	?%	

COMMENTS: Serpentine and calcitization have destroyed all the primary mineralogy. Serpentine breccia has a cement of calcite and serpentine.

149-897D-10R-3 (19–22 cm) OBSERVER: GUY
ROCK NAME: Serpentinite breccia.
GRAIN SIZE: Less than 10 mm.
TEXTURE: Brecciated.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	99%
Orthopyroxene	0%	0%
Clinopyroxene	0%	0%
Spinel	0%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	48%	
Serpentine (vein-filling)	2%	
Calcite	48%	
Magnetite	2%	

COMMENTS: All the primary mineralogy is completely destroyed. Spinel is transformed to magnetite (1 mm-sized). Calcite forms feathery, radiating crystals. Breccia of serpentine with a cement of calcite and serpentine.

149-897D-10R-4 (148–150 cm) OBSERVER: GUY
ROCK NAME: Calcitized serpentine
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	85%
Orthopyroxene	0%	10%
Clinopyroxene	1%	5%
Spinel	1%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	48%	Chalcedony forms 0.4 mm-sized pockets.
Serpentine (vein-filling)	48%	
Calcite	0%	
Magnetite	?%	
Fe-hydroxide chalcedony	7%	

COMMENTS: The primary mineralogy is extensively destroyed by serpentinization and later calcitization. Some remnants of clinopyroxene (0.1 mm) and brown spinel (1 mm).

149-897D-11R-1 (Piece 3H, 92–95 cm) OBSERVER: GUY
ROCK NAME: Calcitized serpentine.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	85%
Orthopyroxene	0%	9%
Clinopyroxene	1%	5%
Spinel	1%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	48%	
Serpentine (vein-filling)	0%	
Calcite	48%	
Magnetite	?%	
Fe-hydroxides	2%	

COMMENTS: The primary mineralogy is extensively destroyed by serpentinization and later calcitization. Some remnants of clinopyroxene (0.1 mm) and brown spinel (1 mm).

149-897D-11R-2 (Piece 8A, 123–126 cm) OBSERVER: GUY
ROCK NAME: Calcitized serpentine.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	85%
Orthopyroxene	0%	9%
Clinopyroxene	1%	5%
Spinel	1%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	50%	
Serpentine (vein-filling)	0%	
Calcite	41%	
Magnetite	?%	
Fe-hydroxide	7%	
Chalcedony		

COMMENTS: The primary mineralogy is extensively destroyed by serpentinization and later calcitization. Some remnants of clinopyroxene (0.1 mm) and dark brown spinel (1 mm).

149-897D-11R-3 (Piece 6B, 48–52 cm) OBSERVER: GUY
ROCK NAME: Calcitized serpentine.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	84%
Orthopyroxene	0%	10%
Clinopyroxene	1%	5%
Spinel	1%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	50%	
Serpentine (vein-filling)	0%	
Calcite	43%	
Magnetite	0%	
Fe-hydroxides	5%	

COMMENTS: All the primary mineralogy has been destroyed by serpentinization and calcitization except a few fragments of brown spinel and clinopyroxene.

149-897D-11R-4 (Piece 4B, 32–34 cm) OBSERVER: GUY
ROCK NAME: Breccia of serpentinite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Brecciated and mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
		Estimated primary mineralogy
Olivine	0%	98%
Orthopyroxene	0%	1%
Clinopyroxene	0%	0%
Spinel	1%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	75%	
Serpentine (vein-filling)	0%	
Calcite	23%	
Magnetite	1%	

COMMENTS: The primary mineralogy is extensively destroyed by serpentinization and calcitization. Only a few fragments of dark brown spinel remain. Breccia of serpentinite.

149-897D-12R-1 (33–41 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
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SECONDARY MINERALOGY		
Serpentine	55%	
Calcite	45%	
Chlorite	<1%	
Quartz	<1%	

COMMENTS: Primary mineralogy destroyed by serpentinization and calcitazation. A yellow-green chlorite and fine-grained quartz are minor alteration minerals.

149-897D-12R-2 (Piece 1, 5–9 cm) OBSERVER: GUY
ROCK NAME: Calcitized serpentinite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
		Estimated primary mineralogy
Olivine	0%	78%
Orthopyroxene	0%	15%
Clinopyroxene	0%	5%
Spinel	0%	2%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	40%	Veins of serpentine are crosscut by calcite veining. The calcite veining tend to transform serpentine in breccia. Fibrous calcite replaces previous minerals.
Serpentine (vein-filling)	0%	
Calcite	59%	
Magnetite	1%	

COMMENTS: Serpentinization and calcitization have almost completely destroyed the primary mineralogy. A few large, red-brown spinels and fragments of olivine and clinopyroxene remain.

149-897D-12R-4 (137–141 cm) OBSERVER: GUY
ROCK NAME: Calcitized serpentinite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	78%
Orthopyroxene	0%	15%
Clinopyroxene	0%	5%
Spinel	1%	2%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	67%	
Serpentine (vein-filling)	1%	
Calcite	30%	
Magnetite	1%	

COMMENTS: Serpentinization and calcitization have almost completely destroyed the primary mineralogy. A few red-brown spinel (1 mm-sized) remain unaltered. Zoned serpentine veins are cut by later calcite veins.

149-897D-12R-5 (83–85 cm) OBSERVER: GUY
ROCK NAME: Calcitized serpentinite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimate primary mineralogy
Olivine	0%	78%
Orthopyroxene	0%	15%
Clinopyroxene	0%	5%
Spinel	1%	2%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	65%	
Serpentine (vein-filling)	1%	
Calcite	30%	
Magnetite	1%	
Chalcedony	2%	

COMMENTS: Serpentinization and calcitization have almost completely destroyed the primary mineralogy. A few dark red-brown spinel (0.2 mm-sized) remain unaltered. Some serpentine veins are zoned.

149-897D-13R-1 (Piece 1E, 73–76 cm) OBSERVER: GUY
ROCK NAME: Calcitized serpentinite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	78%
Orthopyroxene	0%	15%
Clinopyroxene	0%	5%
Spinel	1%	2%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	62%	
Serpentine (vein-filling)	1%	
Calcite	36%	
Magnetite	0?	

COMMENTS: Serpentinization and calcitization have almost completely destroyed the primary mineralogy. A few brown spinel (1 mm-sized) remain unaltered.

149-897D-13R-4 (Piece 2F, 75–77 cm) OBSERVER: GUY
ROCK NAME: Calcitized serpentinite.
GRAIN SIZE: 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	78%
Orthopyroxene	0%	15%
Clinopyroxene	1%	5%
Spinel	1%	2%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	55%	
Serpentine (vein-filling)	1%	
Calcite	40%	
Magnetite	1%	
Fe-hydroxides	1%	

COMMENTS: Serpentinization and calcitization have almost completely destroyed the primary mineralogy. A few pyroxene fragments and shattered appearing dark brown spinel (1 mm-sized) remain unaltered.

149-897D-14R-2 (Piece 1B, 21–25 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE:1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	78%
Orthopyroxene	0%	15%
Clinopyroxene	1%	5%
Spinel	1%	2%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	56%	1 mm-sized brucite crystals appear in connection with fractures, they are crosscut by some serpentine and calcite veinlets.
Serpentine (vein-filling)	1%	
Calcite	40%	
Magnetite	1%	
Brucite		

COMMENTS: Serpentinization and calcitization have almost completely destroyed the primary mineralogy. A few red-brown spinel (1 mm) remain unaltered.

149-897D-14R-5 (Piece 4, 29–32 cm) OBSERVER: GUY
ROCK NAME: Calcitized serpentinite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	78%
Orthopyroxene	0%	15%
Clinopyroxene	0%	5%
Spinel	0%	2%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	66%	
Serpentine (vein-filling)	1%	
Calcite	30%	
Magnetite	1%	
Chalcedony	2%	

COMMENTS: Serpentinization and calcitization have almost completely destroyed the primary mineralogy.

149-897D-15R-1 (Piece 13, 96–99 cm) OBSERVER: GUY
ROCK NAME: Breccia of pyroxenite.
GRAIN SIZE: Up to 10 mm.
TEXTURE: Brecciated.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	10%
Orthopyroxene	15%	44%
Clinopyroxene	15%	45%
Spinel	1%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	18%	
Serpentine (vein-filling)	0%	
Calcite	50%	
Magnetite	1%	

COMMENTS: Primary mineralogy extensively replaced by serpentine and carbonate. Relict fragments of orthopyroxenes, clinopyroxenes (up to 10 mm), are slightly deformed. Red-brown spinel (up to 2 mm) remain unaltered.

149-897D-16R-1 (Piece 2, 10–14 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Banded Serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	99%
Orthopyroxene	0%	0%
Clinopyroxene	0%	0%
Spinel	1%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	77%	Calcite veins are parallel to the serpentinite bands.
Serpentine (vein-filling)	1%	
Calcite	20%	
Magnetite	0%	
Pyrite	1%	

COMMENTS: Primary mineralogy extensively replaced by serpentinization, except yellow-brown spinel (up to 3 mm). The serpentinite was originally a dunite.

149-897D-16R-2 (Piece 1B, 13–16 cm) OBSERVER: GUY
ROCK NAME: Serpentinized pyroxenite.
GRAIN SIZE: 0.5 to 4 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	37%
Orthopyroxene	0%	20%
Clinopyroxene	20%	40%
Spinel	3%	3%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	50%	Serpentine veins (0.5 mm thick) are made of very fine-grained yellowish brown material.
Serpentine (vein-filling)	1%	
Calcite	25%	
Magnetite	0%	
Pyrite	1%	

COMMENTS: Only light brown spinel up to 3 mm and abundant fragments of the primary minerals remain.

149-897D-16R-2 (68–71 cm) OBSERVER: GUY
ROCK NAME: Calcitized serpentinite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS Estimated primary mineralogy
Olivine	0%	49%
Orthopyroxene	0%	25%
Clinopyroxene	5%	25%
Spinel	1%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	30%	Pyrite occurs in dikelet (0.m thick) and as pervasive crystallization in the mesh structure. Calcite veins cut across a large serpentine vein containing fragments of spinel and clinopyroxene.
Serpentine (vein-filling)	20%	
Calcite	40%	
Magnetite	1%	
Pyrite	3%	

COMMENTS: Primary mineralogy extensively replaced by serpentinization and calcitization. Some fragments of clinopyroxene (up to 2 mm), and light brown spinel are preserved.

149-897D-16R-3 (Piece 21C, 69–73 cm) OBSERVER: GUY
ROCK NAME: Calcitized serpentinized pyroxenite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	1?%
Orthopyroxene	0%	49%
Clinopyroxene	0%	49%
Spinel	1%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	1%	Calcitization has destroyed almost all the primary mineralogy.
Serpentine (vein-filling)	0%	
Calcite	85%	
Magnetite	3%	
Fe-hydroxides	10%	

COMMENTS: Highly altered. Very few remnants of clinopyroxene and brown spinel.

149-897D-16R-4 (Piece 1A, 9–13 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	75%
Orthopyroxene	0%	10%
Clinopyroxene	3%	5%
Spinel	1%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	80%	Calcitization has extensively destroyed the primary mineralogy.
Serpentine (vein-filling)	1%	
Calcite	10%	
Magnetite	5%	

COMMENTS: Very few remnants of clinopyroxene, orthopyroxene, and brown spinel. Several small zoned serpentine veins.

149-897D-17R-2 (Piece 4D, 91–95 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	75%
Orthopyroxene	0%	10%
Clinopyroxene	0%	5%
Spinel	0%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	54%	Calcitization has extensively destroyed the primary mineralogy.
Serpentine (vein-filling)	1%	
Calcite	40%	
Magnetite	0%	
Fe-hydroxides	5%	

COMMENTS: Few remnants of brown spinel.

149-897D-17R-3 (Piece 1C, 31–34 cm) OBSERVER: GUY
ROCK NAME: Calcitized peridotite serpentinized.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	98%
Orthopyroxene	0%	0%
Clinopyroxene	0%	0%
Spinel	2%	2%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	38%	Calcitization has extensively destroyed the primary mineralogy.
Serpentine (vein-filling)	1%	
Calcite	55%	
Magnetite	2%	
Fe-hydroxides	2%	

COMMENTS: Dark red-brown spinels up to 2 mm are preserved.

149-897D-17R-4 (Piece 1B, 55–59 cm) OBSERVER: GUY
ROCK NAME: Serpentinite breccia.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh for the clasts and brecciated.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
Olivine	0%	
Orthopyroxene	0%	
Clinopyroxene	0%	
Spinel	1%	
Plagioclase	0%	
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	30%	Calcitization has extensively destroyed the primary mineralogy, some clasts are serpentine. Remnants of dark red-brown spinel.
Serpentine (vein-filling)	0%	
Calcite	66%	
Magnetite	1%	
Fe-hydroxides	2%	

149-897D-17R-6 (Piece 1A, 1–5 cm) OBSERVER: GUY
ROCK NAME: Serpentinite breccia.
GRAIN SIZE: Up to 20 mm.
TEXTURE: Brecciated and mesh for the clasts.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	98%
Orthopyroxene	0%	0%
Clinopyroxene	0%	0%
Spinel	2%	2%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	28%	Large, crosscutting calcite veins have replaced the serpentine. Fragments of very dark brown spinel (0.2 mm).
Serpentine (vein-filling)	5%	
Calcite	60%	
Magnetite	0%	
Brucite, iowaite	5%	

149-897D-17R-6 (Piece 1B, 22–26 cm) OBSERVER: GUY
ROCK NAME: Serpentinite breccia.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Brecciated and mesh for the clasts.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
Olivine	0%	
Orthopyroxene	0%	
Clinopyroxene	0%	
Spinel	1%	
Plagioclase	0%	
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	38%	Serpentinization and calcitization have extensively destroyed the primary mineralogy. Fragments of red-brown spinel (0.2 mm).
Serpentine (vein-filling)	0%	
Calcite	60%	
Magnetite	1%	

149-897D-17R-6 (Piece 1C, 66–70 cm) OBSERVER: GUY
ROCK NAME: Serpentinite breccia.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Brecciated and mesh for the clasts.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	98%
Orthopyroxene	0%	0%
Clinopyroxene	0%	0%
Spinel	2%	2%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	37%	Serpentinization and calcitization has extensively destroyed the primary mineralogy. Fragments of red to brown spinel (0.2 mm).
Serpentine (vein-filling)	0%	
Calcite	60%	
Magnetite	1%	

149-897D-18R-2 (10–17 cm) OBSERVER: GUY
ROCK NAME: Serpentinite breccia.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Brecciated and mesh for the clasts.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	98%
Orthopyroxene	0%	0%
Clinopyroxene	0%	0%
Spinel	2%	2%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	33%	Serpentinization and calcitization has extensively destroyed the primary mineralogy. Fragments of brown spinel (0.2 mm).
Serpentine (vein-filling)	5%	
Calcite	60%	
Magnetite	0%	

149-897D-18R-2 (30–35 cm) OBSERVER: GUY
ROCK NAME: Serpentinite breccia.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Brecciated and mesh for the clasts.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	98%
Orthopyroxene	0%	0%
Clinopyroxene	0%	0%
Spinel	2%	2%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	91%	A fine-grained serpentinite breccia with calcite crystals. Several fragments of red-brown spinel.
Serpentine (vein-filling)	0%	
Calcite	4%	
Magnetite	3%	

149-897D-19R-1 (Piece 5, 38–41 cm) OBSERVER: GUY
ROCK NAME: Serpentinite breccia
GRAIN SIZE: Less than 1 mm.
TEXTURE: Brecciated and mesh for the clasts.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	98%
Orthopyroxene	0%	0%
Clinopyroxene	0%	0%
Spinel	2%	2%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	91%	A fine-grained serpentinite breccia with calcite crystals. A few fragments of light brown spinel.
Serpentine (vein-filling)	0%	
Calcite	4%	
Magnetite	3%	

149-897D-19R-1 (Piece 8D, 84–86 cm) OBSERVER: GUY
ROCK NAME: Serpentinite breccia.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Brecciated and mesh for the clasts.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	98%
Orthopyroxene	0%	0%
Clinopyroxene	0%	0%
Spinel	0%	2%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	93%	A fine-grained serpentinite breccia with calcite crystals.
Serpentine (vein-filling)	0%	
Calcite	4%	
Magnetite	3%	

149-897D-19R-2 (Piece 10, 108–115 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	73%
Orthopyroxene	0%	15%
Clinopyroxene	0%	5%
Spinel	1%	2%
Plagioclase	0%	5%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	88%	
Serpentine (vein-filling)	0%	
Calcite	1%	
Magnetite	10%	

COMMENTS: No remnants of the primary mineralogy except for fragments of very dark brown spinel (1 mm).

149-897D-19R-3 (Piece 4, 86–90 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS
Olivine	0%	
Orthopyroxene	0%	
Clinopyroxene	0%	
Spinel	<1%	
Plagioclase	0%	
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	100%	No remnants of the primary mineralogy except for light brown spinel (up to 1 mm).
Serpentine (vein-filling)	0%	
Calcite	0%	
Magnetite	0%?	

149-897D-19R-4 (Piece 1A, 19–23 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	73%
Orthopyroxene	0%	15%
Clinopyroxene	0%	5%
Spinel	2%	2%
Plagioclase	0%	5%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	84%	
Serpentine (vein-filling)	0%	
Calcite	2%	
Magnetite	10%	
Fe-hydroxides	2%	

COMMENTS: Only the brown to light green spinel (2 mm-sized) is preserved. Former plagioclase-bearing lherzolite.

149-897D-19R-5 (Piece 1D, 23–27 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	73%
Orthopyroxene	0%	15%
Clinopyroxene	1%	5%
Spinel	2%	2%
Plagioclase	0%	5%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	83%	
Serpentine (vein-filling)	0%	
Calcite	2%	
Magnetite	10%	
Fe-hydroxides	2%	

COMMENTS: Only the stretched brown spinel (2 mm sized) and fragments of clinopyroxene are preserved. Former plagioclase-bearing lherzolite. Patches of calcite.

149-897D-19R-5 (Piece 4D, 118–123 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Up to 7 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	2%	58%
Orthopyroxene	OPX + CPX = 3%	OPX + CPX = 15%
Clinopyroxene	OPX + CPX = 3%	15%
Spinel	2%	2%
Plagioclase	0%	10%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	91%	
Serpentine (vein-filling)	0%	
Calcite	0%	
Magnetite	2%	

COMMENTS: Coarse grained with relict equant fabric. Some olivine (2.5 mm), clinopyroxenes (2 mm), and (1 mm) yellow-brown spinels are preserved. Former plagioclase-bearing lherzolite.

149-897D-20R-1 (Piece 3, 8–12 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Up to 7 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	73%
Orthopyroxene	0%	15%
Clinopyroxene	0%	5%
Spinel	2%	2%
Plagioclase	0%	5%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	90%	
Serpentine (vein-filling)	5%	
Calcite	0%	
Magnetite	3%	

COMMENTS: Very dark brown to black spinel fragments remain. Former lherzolite or harzburgite.

149-897D-20R-2 (Piece 4E, 126–131 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	57%
Orthopyroxene	0%	15%
Clinopyroxene	0%	10%
Spinel	2%	2%
Plagioclase	0%	20%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	90%	
Serpentine (vein-filling)	5%	
Calcite	0%	
Magnetite	3%	

COMMENTS: No primary mineralogy is preserved except for dark brown spinel (1 mm). Former plagioclase-bearing lherzolite.

149-897D-21R-1 (Piece 1B, 10–14 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	68%
Orthopyroxene	0%	15%
Clinopyroxene	0%	5%
Spinel	0%	2%
Plagioclase	0%	10%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	92%	
Serpentine (vein-filling)	5%	
Calcite	0%	
Magnetite	3%	

COMMENTS: No primary mineralogy is preserved except for very small fragments of brown spinel (1 mm). Former plagioclase bearing lherzolite.

149-897D-21R-4 (Piece 5, 78–84 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	73%
Orthopyroxene	0%	10%
Clinopyroxene	0%	3%
Spinel	0%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	92%	
Serpentine (vein-filling)	2%	
Calcite	0%	
Magnetite	3%	
Brucite	3%	

COMMENTS: No primary mineralogy preserved except for fragments of black spinel. Former harzburgite(?).

149-897D-21R-4 (Piece 8, 135–140 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	97%
Orthopyroxene	0%	2%
Clinopyroxene	0%	0%
Spinel	0%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	95%	
Serpentine (vein-filling)	2%	
Calcite	0%	
Magnetite	3%	

COMMENTS: No primary mineralogy preserved. Former dunite.

149-897D-22R-3 (Piece 4, 35–37 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	96%
Orthopyroxene	0%	0%
Clinopyroxene	0%	0%
Spinel	4%	4%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	91%	
Serpentine (vein-filling)	0%	
Calcite	0%	
Magnetite	5%	

COMMENTS: Only spinel (up to 3 mm and very dark brown) is preserved. Former dunite.

149-897D-23R-1 (Piece 5C, 59–62 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	95%
Orthopyroxene	0%	0%
Clinopyroxene	0%	0%
Spinel	5%	5%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	90%	
Serpentine (vein-filling)	0%	
Calcite	0%	
Magnetite	5%	

COMMENTS: No primary mineralogy except that numerous crystals of very dark brown spinel are preserved. Former dunite.

149-897D-23R-4 (Piece 3, 121–124 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	95%
Orthopyroxene	0%	0%
Clinopyroxene	0%	0%
Spinel	5%	5%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	90%	
Serpentine (vein-filling)	0%	
Calcite	0%	
Magnetite	5%	

COMMENTS: No primary mineralogy, except for black spinel, is preserved. Former dunite.

149-897D-23R-6 (Piece 1, 14–17 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	76%
Orthopyroxene	0%	10%
Clinopyroxene	0%	3%
Spinel	0%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	97%	
Serpentine (vein-filling)	1%	
Calcite	0%	
Magnetite	2%	

COMMENTS: No primary mineralogy preserved except for partly destroyed black spinel.

149-897D-24R-1 (Piece 1, 9–12 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Primary minerals up to 10 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	69%
Orthopyroxene	0%	15%
Clinopyroxene	0%	5%
Spinel	2%	2%
Plagioclase	0%	9%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	95%	
Serpentine (vein-filling)	1%	
Calcite	0%	
Magnetite	2%	
Brucite	<1%	

COMMENTS: No primary mineralogy is preserved except brown or red-brown spinel (1 mm). Plagioclase-bearing lherzolite.

149-897D-24R-3 (Piece 1, 66–70 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	73%
Orthopyroxene	0%	10%
Clinopyroxene	0%	3%
Spinel	0%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	96%	
Serpentine (vein-filling)	1%	
Calcite	0%	
Magnetite	3%	

COMMENTS: No primary mineralogy preserved.

149-897D-25R-3 (Piece 2E, 142–145 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	73%
Orthopyroxene	0%	10%
Clinopyroxene	0%	3%
Spinel	0%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	89%	
Serpentine (vein-filling)	1%	
Calcite	0%	
Magnetite	10%	

COMMENTS: No primary mineralogy preserved.

149-897D-25R-5 (Piece 1C, 55–58 cm) OBSERVER: GUY
ROCK NAME: Serpentinized peridotite.
GRAIN SIZE: Less than 1 mm.
TEXTURE: Mesh serpentinite.

PRIMARY MINERALOGY	PERCENT PRESENT	COMMENTS EPM
Olivine	0%	73%
Orthopyroxene	0%	10%
Clinopyroxene	0%	3%
Spinel	0%	1%
Plagioclase	0%	0%
SECONDARY MINERALOGY		
Serpentine (replacing primary mineralogy)	89%	
Serpentine (vein-filling)	1%	
Calcite	0%	
Magnetite	10%	

COMMENTS: No primary mineralogy preserved.