

CAUSE-OF-LOSS REPORT · CASE 102 · SAMPLE

Long Beach Peninsula slab-on-grade

Mechanism	sub-slab uplift
Level	slab at +6 ft
Location	Long Beach, California
Prepared by	L3 Energy Construction, The Hydrotech Lab
Engineer of record	named separately where one is engaged

This is a sample report. It shows the form and depth of a Hydrotech Lab cause-of-loss report. The property, readings and outcomes are illustrative and do not describe a real client.

CHAPTER 1 · THE PATHOLOGY

Three new floors in five years, and the same ridge down the hallway.

The house sits on sand a block from the water. Each winter a ridge rose along one line through the hall, the wood floor cupped, and by spring it had settled again.

The floor was replaced three times. Nobody had measured what was happening under the slab.

OBSERVATION	FINDING
Slab	on grade, about 6 ft above MLLW
Ridge	along a cold joint, up to 3/8 in in winter
Finishes	engineered wood, replaced three times
Vapor retarder	none found at two cores
Season	worst December through February
Plumbing	pressure-tested, sound

CHAPTER 2 · DIAGNOSTIC RECONSTRUCTION

How the path was established

The ridge appeared and disappeared with the season, which pointed at the water table, so we measured the table, the slab and the moisture in the concrete together.

METHOD	PROCEDURE / STANDARD	WHAT IT SHOWED
Water-table logging	standpipe and pressure logger, one season	Table rose to within 4 in of the slab in January.

METHOD	PROCEDURE / STANDARD	WHAT IT SHOWED
Floor-level survey	manometer grid at 4 ft centers	Heave confined to the cold joint line.
Slab humidity	in-situ probes, ASTM F2170	Relative humidity above 95% at the joint; too wet for any wood floor.
Core samples	two cores at the joint	No vapor retarder; joint open through the full depth.

Recommended scope of repair

- 1 Sub-slab relief with a monitored drawdown point at the low side of the house.
- 2 Cold joint routed, sealed and treated with crystalline waterproofing.
- 3 Moisture mitigation layer over the slab before any finish.
- 4 Water-table logger left in the pit.

CHAPTER 3 · RESTORED STATE

Verification

The table was held twenty inches below the slab through the 2024–25 season. The fourth floor is still flat.

MEASURE	READING	STATE
Water table under slab	held 20 in below	stable
Slab humidity at joint	within flooring limits	stable
Floor level	no seasonal ridge	stable
Monitoring	logger in the drawdown pit	active

Scope and limits. This report states the cause of water intrusion as established by the field methods listed, and a scope of repair a licensed contractor can bid from. It is not an engineering report. Structural, geotechnical or coastal engineering conclusions are the work of the engineer of record.